

*The*  
**MODERN  
HOSPITAL**

Vol. IX

*November, 1917*

No. 5



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**Influenza Serobacterin Mixed Mulford** will give immunity from “Colds” and Influenza to a large percentage of patients infected by the organisms used in preparing the Serobacterin.

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Staphylococcus albus .....	125	250	500	1000 million
Staphylococcus aureus .....	125	250	500	1000 million
Streptococcus .....	125	250	500	1000 million
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M. catarrhalis (group) .....	125	250	500	1000 million

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**Typho-Serobacterin Mixed** is coming into general favor for immunization as well as treatment. It affords immunity against the typhoid and the paratyphoid “A” and “B” bacilli present in about 10% of typhoid cases.

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Manufacturing and Biological Chemists

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# THE MODERN HOSPITAL

*A Monthly Journal Devoted to the Building, Equipment, and  
Administration of Hospitals, Sanatoriums, and Allied Institutions,  
and to their Medical, Surgical, and Nursing Services*

Vol. IX

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No. 5

## THE CONTAGIOUS DISEASE HOSPITAL FOR IMMIGRANTS AT ELLIS ISLAND, N. Y.

### **The Scope and Special Problems—Small Isolation Units—Low Incidence of Cross-Infection—Special Advantage in Isolating Children—Method of Transporting Patients—Routine Followed in Making Admissions**

By J. G. WILSON, M. D., U. S. PUBLIC HEALTH SERVICE, ELLIS ISLAND, NEW YORK

#### I. FUNCTIONS AND SPECIAL PROBLEMS OF THE HOSPITAL

THIS hospital is exclusively for the treatment of immigrants arriving at the port of New York. It is situated on an artificial island of about four acres in the upper bay of New York Harbor. The island is one of three, which, connected by bridges, constitute the whole of Ellis Island.

Although opened to receive patients in June, 1911, the hospital is still in the process of making, large wards being divided into smaller, and interior alterations being made in order to evolve gradually a more perfect system of isolation units.

The custody of the buildings and the buying of all supplies is under the direct supervision of the immigration officials, who are government employees in the Department of Labor. The internal administration and the professional care of patients are conducted by a medical officer of the United States Public Health Service, which is a bureau attached to the Treasury Department.

In the six years of the existence of the hospital there have been over seven thousand patients received for diagnosis and treatment. The admissions have varied greatly from month to month and from year to year, being influenced by the fluctuation in immigration as well as the usual periodicity of epidemic diseases.

The great irregularity of admissions constitutes the chief special problems which the hospital has to meet. Sometimes with less than an hour's warning more than fifty patients will be landed, suffer-

ing from different contagious diseases. These must be admitted at once, and the problem of keeping the different kinds of infection separated is immediately presented. Its solution depends upon (1) an adequate supply of isolation units; (2) correct primary diagnosis whenever possible; (3) a rigid antiseptic technic in the admission, nursing, and treatment of the patient. These conditions can be met only when the medical officers and nurses in charge are provided with proper facilities. Although the incidence of cross-infection contracted in hospital has not entirely ceased, it has reached such a low point (for the past year 0.63 percent of all admissions) that it is believed a description of the hospital, with special reference to the provisions to prevent the spread of disease, will be found interesting and instructive.

#### II. GENERAL PLAN OF WARDS AND ADMINISTRATION BUILDINGS

There are eight separate two-story buildings projecting at right angles from the main corridor which runs through the center. Four of these buildings have a northern and four a southern exposure. The space between the buildings is sufficient to secure good ventilation and plenty of sunlight, even in the buildings with northern exposure. There are two wards in each building, each 55 feet long by 27 feet wide. One of these wards is on the ground floor and one on the second floor. Besides the wards mentioned, there is a central building on the north side of the corridor in which the nurses are quartered and which also contains

the operating room and dining room for all nurses and attendants. Opposite this central building on the south side of the corridor is the kitchen, which supplies the food for the whole hospital, including personnel and patients. At the west end of the corridor, situated near the admission gate to the island, is the office and administration building, the laboratory, the morgue, the laundry, the power house, and sleeping quarters for ward maids and attendants. At the east end of the corridor is the private dwelling for the medical officer in immediate charge of the hospital. Scattered on the campus in this section are three one-story-and-a-half buildings, which were originally designed for

the actual number which can be treated properly is less than half that number. The reason for this lies in the fact that the number of isolation rooms is inadequate. Fortunately, there have seldom been over 150 patients in the hospital at any one time. Should it become necessary to accommodate more, all the wards on the ground floor could be cut up into cubicles, the upper-story wards being used for convalescent patients only, thus practically doubling the isolation facilities.

As the hospital is actually administered there are only eight wards in use for patients with contagious diseases.<sup>1</sup> These are situated at the western end of the central corridor. Two of these

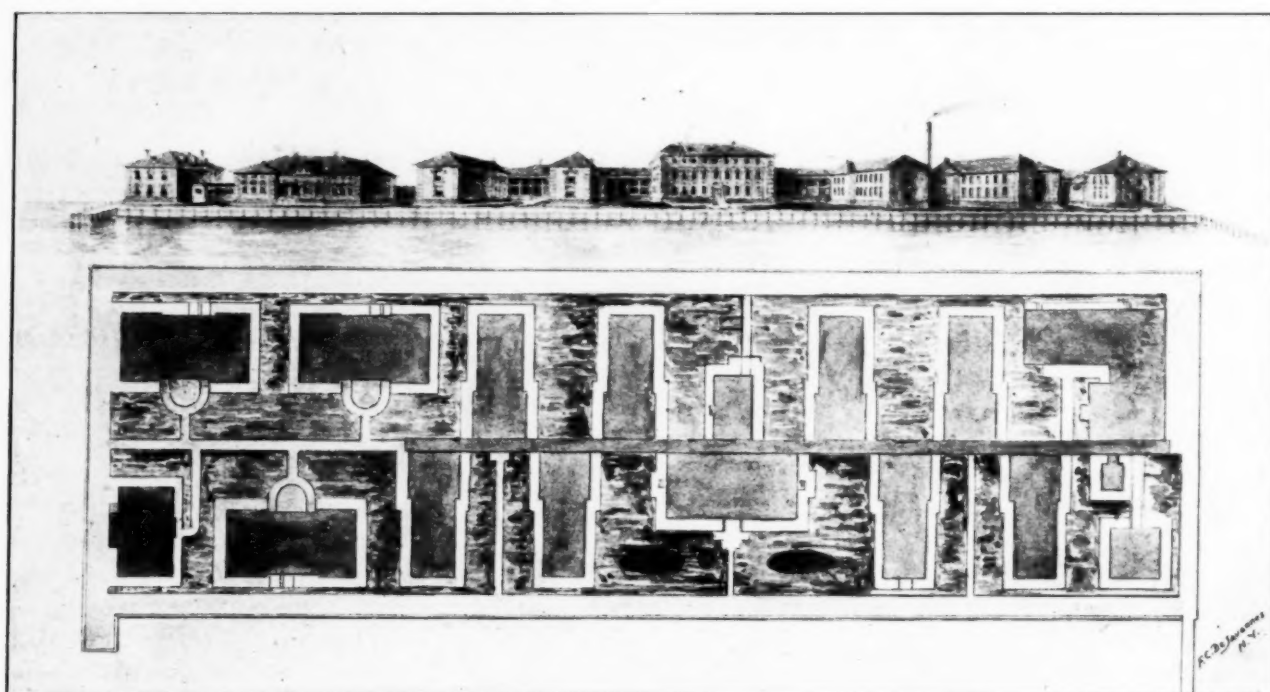


Fig. 1. View and ground floor plan of the Contagious Disease Hospital for Immigrants at Ellis Island, New York.

the isolation of scarlet fever and diphtheria patients, but which have never been used for that purpose and have been utilized as living and sleeping quarters for certain of the hospital personnel.

If it were possible to utilize for ward purposes all the fourteen wards in the eight buildings, there would be capacity for 321 adult patients, or 364 children 3 to 4 years of age, or 560 children of less than 3 years. This estimate is based on an allowance of 45 square feet of floor space for each child 3 to 4 years of age, 65 square feet for children over 4, and 80 square feet for adults. The height of the walls is sufficient to give a cubic air space of over 1,000 feet per adult and a correspondingly liberal amount for children. With the usual distribution of adults and children, the capacity of the sixteen wards is about 400 beds.

Although there are theoretically accommodations for the above-mentioned number of patients,

on the ground floor are cut up into small units which accommodate from 3 to 5 cribs each. There are fourteen of these small units. In 1915 another ground-floor ward was cut up into twelve one-bed units (Fig. 2). Besides the small units, there is, in every one of the eight wards, an isolation room capable of accommodating two patients. There are, then, all told, thirty-four small units available, which are designed to accommodate from one to five patients each, and four wards 55 feet by 27 feet, each one of which has a capacity of either fifteen adults, twenty-eight children 3 to 4 years old, or thirty-three infants.

As patients with different diseases are mixed together in the steerage and on landing, it be-

<sup>1</sup>This refers to the wards used for contagious disease proper, relatives accompanying children with such diseases, and patients admitted for observation on account of known or suspected contact with contagious disease. It does not include three wards used for tuberculosis patients, nor one ward occasionally used to accommodate patients who are undergoing examination for intestinal parasites and trachoma.



comes necessary to isolate practically every new admission for a more or less extended period of observation. Owing to the great prevalence of cross-infections on arrival and to the fact that a reliable history either of the present illness or of previous infectious diseases is never obtainable from the immigrant, the above-described isolation facilities, which at first glance appear unusually adequate, are as a matter of fact not sufficient for the proper sorting and grouping of 150 patients of the character usually admitted. However, since the twelve additional units were obtained by the subdivision of a large ward in 1915, it has been possible to inaugurate a uniform system of isolation, which it has only occasionally been necessary to abandon. It is believed that, were small units increased to such a point that large convalescent wards could be totally dispensed with, the incidence of cross-infection contracted in the hospital would practically cease.

### III. THE SMALL UNIT

Although these units were primarily designed for one patient only, they are large enough to hold two beds if emergency arises which necessitates abandonment of the plan of strict isolation of each individual. When the rooms are thus utilized, care is taken to place children together who not only have the same diseases, but also have been previously associated. Examples of such cases are those on which two children of the same family are admitted to the hospital at about the same time, or in which a mother accompanies a nursing infant.

Each unit has running hot and cold water, a drop-light attachment so that examination of ear-drums can be made in the room, a steam radiator, an indirect electric light in the ceiling which can be switched on or off by pressing a button just outside the room door, and a small shelf placed high above the washstand, entirely out of reach of any child. The furniture in the room consists solely of an iron bed or crib and a small low chair. Every morning a fresh paper bag is hung by a small strip of adhesive plaster from the shelf. This bag is to receive used dressings, antitoxin containers, throat swabs, and everything else which has been used in the room and which can be of no further service. The bags are collected daily and taken to a large incinerator where debris and garbage for the whole of Ellis Island is destroyed.

On the shelf are kept any special medicines or appliances needed for the individual case, a clinical thermometer, and a comb. A small chamber is kept under the bed.

A strip of clean white muslin, 18 inches wide, is tacked over the lower portion of the window

frame to act as a wind shield and allow the window to be partly open for ventilation. A room thermometer hangs on the wall near the door in such a position that it can be read without entering the room. The temperature is kept at from 68 to 70 F.

There are six of these rooms in a row on each side of a common hallway. Each room has a door with a large glass window. The doors all open inward and are so arranged that no two are opposite each other. There is no attempt made to keep the doors shut except in special cases in which it seems desirable to do so in order to insure absolute quiet for the patient. If a child is not sick enough to be kept in bed, he is prevented from leaving the room by placing a removable wooden gate in the doorway, which allows him to see out into the hallway through perpendicular slats.

The rooms all have a large immovable glass window in the partition between them, so that it



Fig. 2. One of the isolation units at the Ellis Island Contagious Disease Hospital for Immigrants.

is possible for the nurse to see the patients in six rooms at the same time. The beds are placed next to these partition windows, and convalescent children soon begin to play with each other through these windows without the danger of any direct contact. Children in this system of small units are the happiest in the hospital. Experience has proved that there is more contentment where they can see each other and see what is going on around them without coming in actual contact than there is where they all mingle freely together in a common ward. As practically all quarrels among small children have their origin in the effort which one child makes to take away forcibly from another child some object which it desires

for itself, the reason why more happiness exists here is apparent.

In the hallway between the two sets of isolation rooms are placed several basins containing 2 percent creolin solution. These basins are used for washing the hands and also for the immersion of instruments or utensils which have to be carried out of the room. Just outside every room hang three gowns and caps. One of these is for the doctor, one for the nurse, and one for the ward maid. Clean gowns are supplied daily.

This system of twelve rooms and a common hallway is served by one bathroom for bathing newly arrived patients and one bathroom with appliances for the application of hydrotherapy. There is also a ward kitchen, a linen room, a large toilet room, and a small sink closet. The nurse's office is a room situated in line with the isolation



Fig. 3. Hand ambulance for transporting patients to the Contagious Disease Hospital. The top is removable. The mica window in front permits observation of the patient even when he is completely covered.

rooms on one side of the hallway, and through the inside window of this office she can see half of the whole system at one time.

The two other wards, which are divided into small units of from three to five beds each, are arranged on the same general plan as the one just described. They differ, however, not only in the fact that the units are larger, but also in that they are not so well arranged as regards windows between the rooms and are not provided with such good facilities for bathing and hydrotherapy.

#### IV. ADMISSION

The patients are sent to the contagious disease hospital from the detention rooms in the immigration administration building, from the medical examination rooms, the primary medical inspection line in the same building, the general hospital, or direct from the immigrant barges.

These sources of admission are all from 150 to 300 yards distant, and the transportation must be effected through passageways and over bridges exposed to the open air. To meet these conditions,

hand ambulances, such as depicted in Fig. 3, have been devised. The prairie schooner top can be removed entirely or in part as desired, and the mica glass window in the front end allows observation of the patient even when he is completely covered. The whole ambulance can be stripped of bedding, and the framework and top washed down with the hose within five minutes.

When an ambulance call comes, a male attendant is sent to the sterilization room to dress the ambulance with sterile blankets and pillows. He first slips on a long white gown, which completely covers his clothing. After preparing the ambulance he goes for the patient, whom he brings to a small room at the west end of the corridor, and notifies the admitting officer by telephone that a patient awaits his orders. The admitting officer informs him what isolation unit is ready to receive the patient. If there are no isolation rooms available, the admitting officer goes immediately to see the patient, makes a diagnosis if possible, and assigns the patient to a ward or room with other patients where it is believed the danger of mutual cross-infection will be the least.

As soon as the patient is taken to the ward, the nurse in charge sees that he is placed in the bathroom, and she and the ward maid together undress him and list his clothes and valuables on the back of the admission sheet. All clothes are put in a bag, which is labeled with the patient's name and taken to the sterilizing room. Dirty underclothes are turned in to the laundry from this room. All other clothes are put into the steam sterilizer. The child, undressed, is now thoroughly bathed in the tub, and tincture of larkspur applied to the head as a routine measure. After a bath the child is dressed in clean night clothes and placed in his crib in the isolation room. As soon as he is in bed, the nurse takes his pulse, temperature, and respiration, labels a Loeffler's blood serum tube with the patient's name, the date and number of the ward, and in the case of little girls takes a vaginal smear. She now notifies the doctor in charge of the ward that a new patient is awaiting examination. The doctor makes this examination with as little delay as possible. He takes a nose and throat culture at the time of the examination, and this together with the vaginal smear is at once sent to the laboratory by the ward maid.

In the event that many patients are being admitted to the same ward at the same time or in rapid succession, they are put in their individual isolation units fully dressed, to await their turn in the bathroom. Between patients the bathroom is mopped out with hot water and the tub scrubbed with 2 percent creolin solution.

There is no effort made to confine the same dis-



eases to the same wards. All are admitted indiscriminately to any ward, but are carefully kept from direct contact with each other by means of the isolation units already described. When it is necessary to place a new admission with other patients whose status as diphtheria carriers has not yet been determined, a Schick test is done, but antitoxin is never administered unless there is either *clinical* signs of diphtheria or known exposure to the same. Following is a specimen admission sheet filled out in the usual manner:

## U. S. IMMIGRANT HOSPITAL

Name, *Giuseppa Catrona*.  
Age, 4 years; Nativity, *Italy*; Sex, *female*. No. 889.  
Arrived *July 9, 1915*; Admitted *July 23, 1915*; ex SS., *Duca D'Aosta*.  
Manifest *Not manifested*; Discharged *August 7, 1915*, "*Measles Recovered*."

Cause of admission, *observation on account of fever*.

Bathed { Tub } ; Valuables taken up in ward, *none except small*  
{ Sponge x } *metal cross with yellow metal chain attached.*

Witnesses: *Hanna Murphy* (ward maid), *Katherine Foran* (nurse).

[The foregoing is to be filled in by the nurse.]

Condition on admission, *Does not appear very sick. Looks like a case of beginning measles without complication. A few scattered rales over both lungs, front and back. Heart, abdomen, extremities, lymphatic and nervous systems all appear normal. Coughs some.*

J. G. Wilson, Surgeon.

Preliminary medication, *15 c. c. castor oil*.

## ADDITIONAL DATA FOR CONTAGIOUS DISEASE HOSPITAL

Location of relatives, *Mother and sister in the Excluded Room in the main building.*

Temperature, *38.2*; Pulse, *119*; Respiration, *29*.

Scalp, *pediculi*; Eyes, *congested*; Nose, *slight coryza*.

Mouth, *Koplik spots*; Throat, *fauces red*; Ears, *negative*.

Skin, *No rash nor desquamation.*

[The foregoing is to be filled in by the doctor.]

Culture, *nose and throat and vaginal smear all taken*; No. Units antitoxin given by Dr., *none*.

Admitted to ward *B-1* by Dr. *Wilson*. Date, *July 23, 1915*.

Transferred to ward *B-2* by Dr. *Wilson*. Date, *August 1, 1915*.

Transferred to ward.....by Dr..... Date.....

Transferred to ward.....by Dr..... Date.....

Discharged from ward *B-2* by Dr. *Wilson*. Date, *August 7, 1915*.

[The foregoing is to be filled in by the nurse.]

It will be noted that there are but few blank spaces to fill and that very little room is provided for recording results of examination. This is done purposely. It has been found desirable to have the *positive findings* stand out clearly in the record of the first examination. In order to accomplish this result, these findings should not be mixed with other matter which, however interesting and scientific it may be, has no bearing on the management of the case in hospital.

In those instances in which the physical findings warrant a longer record, a sheet of paper identical with that on which the nurses' notes are kept is used in addition to the admission sheet. The physician in charge of the case makes clinical notes as occasion warrants (usually not less than twice a week and sometimes twice daily), which show the condition of the patient and the progress of his disease. These notes are made on the same sheets that are used by the nurses for their daily and nightly records, and are dated and signed and placed in chronological order. The reports from the laboratory are also signed and arranged chronologically, so that one desiring to look up the medical history of a patient will find every note

made by everyone who has had anything to do with the case, in exact chronological order from the time of admission to the date of discharge.

On the lower part of the admission sheet is a space for summarizing the record of the child's progress through the different wards of the hospital. This summary, together with the clinical notes and the nurses' bedside notes, both of which must invariably be signed by the person making them, serves to fix responsibility where it belongs, and thus acts as a direct stimulus to that precision of method which is essential to the proper hospital management of contagious diseases.

## French Military Hospital Ships

Dr. Oudard, staff surgeon of the French navy, writes in a recent number of the *Archives de medecine navale* that the French have long employed hospital ships in their colonial wars, and that, indeed, in 1877 they built the *Annamite* as a hospital ship. She turned out so well that five others followed her, giving in his experience greater satisfaction than can be obtained from any converted merchantman. He wishes to see a fleet of steady ships built, about 10,000 tons and 15 knots, leased in peace time to commercial companies as passenger steamers, available at once on the outbreak of war, and each carrying 600 bed cases in single-tier cots. This is done in Japan. The French hospital ships were a great help to the army at the beginning of the war, when the battles of the Yser were being fought, and the wounded were many. The ship would lie in a northern channel port and at first she took the wounded as they were brought down by trains or ambulances, straight off the field. When the ship was as full as she could hold, about twice her calculated capacity, she would put to sea, and in a few hours discharge her patients somewhere in the west, every exertion having been made on board for the wounded, though little, except what was urgently necessary, could be achieved. Still, the wounded were greatly better off on shipboard, the pitching and rolling of the ship being far better borne, particularly by fracture cases, than the constant jolting of a train. Later on, as additional hospital ships came into service, they were less hurried, and could lie at bases, doing the duty of comfortable base hospitals, in France, at Mudros, and elsewhere. Popular report in the army credits the French hospital ships with a great deal of good work. The question of personnel is important. Dr. Oudard requires 10 orderlies for every 100 patients. In the hospital ships or barges used by the Austrians on the Danube and Save, and only employed over short distances, there were 12 orderlies for every 100 "lying" cases and four for every 100 "sitters."

The Baptist churches of Louisville, Ky., launched a campaign in October to raise \$35,000 as the initial contribution to a fund which the churches of this denomination throughout Kentucky will endeavor to secure for the establishment in Louisville of a large general hospital. A total of \$250,000 will be sought by the state association.

One hundred thousand dollars have been raised to establish a Deaconess Hospital at Billings, Mont., and arrangements are being made to begin the construction of a modern fireproof building in the near future.

## A CONTROLLING BASIS FOR THE ECONOMICAL USE OF SUPPLIES\*

**Lack of Information in Regard to Quantitative Use of Supplies in Institutions—Method of Checking Waste by Charting Amounts of Supplies**

BY H. J. MOSS, M. D., SUPERINTENDENT OF THE HEBREW HOSPITAL, BALTIMORE

**T**HE extraordinary conditions incident to the terrible struggle of the past three years have brought about very serious economic problems. And we in this country are awakening to the realization that we have been too extravagant in our mode of living, that we have been wasteful, and that the successful outcome of the great war will largely depend upon our ability to conserve our resources.

When the United States Government finds it necessary to appoint a food dictator for the conservation of foods and supplies, and the Committee on National Defense, through its special committee of the most prominent and distinguished men in the medical profession, sees fit to bring about a standardization of the various instruments and appliances to be used by hospitals, and with the steady increase in the cost of commodities, ranging from 50 percent and in many instances to 150 percent and even higher, it is not at all surprising that the hospitals of this country have been much alarmed over this situation, and every administrator's attention has been centered on the most serious question of how these extraordinary advances in the cost of the management of the institutions can be met.

Several remedies have been suggested and tried. They are:

1. Increasing the cost of the private rooms, semiprivate wards, and ward beds.
2. The purchasing of cheaper grades of foods and supplies.
3. Economization of the materials used without reducing the quality.

The first-mentioned scheme has probably been adopted by almost every hospital, and the patients are now obliged to pay more for their maintenance. I wish to offer my protest, however, to an increase in the ward rates. It must be remembered that, after all, the object of a charitable institution is to give medical aid to the needy. The poor, suffering as they are from the inflated prices for the very necessities of life, are in no position to meet these added burdens, particularly when they are incapacitated by illness. I object to the second, namely, to the substitution of cheaper grades, for the reason that it is conducive to destruction rather than to the building up and improvement of the reputation and standing of a hospital.

The best manner to meet this exigency is, in my judgment, to continue as we have in normal times, but to be alert and take every advantage in the drawing of timely contracts and making proper purchases, and principally to exercise a proper control in the consumption and distribution of foods and supplies. It is upon this latter phase that I shall dwell briefly in this paper.

How many busy superintendents of large hospitals know exactly the daily quantitative use of supplies? How many know or are in a position to know how many pounds of bread, how many dozen of eggs, quarts of milk, pounds of coffee, pounds of meat, etc., are used in their institution daily? Yet such knowledge is all-important and essential in determining whether or not the individuals entrusted with the preparation and the distribution of foods have exercised economical and judicious supervision.

The question of waste has always been a much-discussed subject, but, in perusing the literature, I have failed to find any definite comprehensive system or scheme for its prevention. We are told that the superintendent must ever preach "economy" to his subordinates. How unscientific! At an address recently made by Miss Alice Hill Chittenden, president of the New York State Association Opposed to Woman Suffrage, she charged the hired household servant of today with being a marvel of incompetence, wastefulness, and indifference, and absolutely unamenable to discipline. I believe that every hospital superintendent's experience with domestics during the past year will lead him to coincide with the views of Miss Chittenden. How, then, are we to regulate and control this inefficiency?

It has been and is now the custom of every hospital superintendent or committee of the directorate or trustee to study the monthly expenditures and analyze the several items; comparing the costs with those of the corresponding months of previous years, or with the previous months of the same year, with a view of determining whether or not the price of the articles in dollars and cents was increased or reduced for the month under consideration, thereby judging the efficiency of the persons in charge of the several departments. But during the past year this study has been absolutely valueless. The steady increase and fluctuations of prices has so varied that, although the expenditures for a certain item may

\*Read before the American Hospital Association at its nineteenth annual session, Cleveland, O., September 12, 1917.



show an increase at the end of a month, it does not necessarily follow that a larger quantity was consumed.

And so at the end of August, 1916, we began to total and summarize the quantities of the several foods used, and when we compared them with the following month (as is demonstrated in Tables 1 and 2) we immediately realized that the simple

TABLE I. COMPARISON OF EXPENSES IN STEWARD'S DEPARTMENT, AUGUST, 1916, AND SEPTEMBER, 1916.

	August, 1916	September, 1916	August, 1916	September, 1916
Meats.....	\$672.36	\$705.18	{ Beef.. 2,866 pounds Lamb.. 679 pounds Veal.. 470 pounds	2,899 pounds 675 pounds 696 pounds
Milk and cream	409.32	422.99	{ Milk.. 1,490 gallons Cream.. 22 gallons	1,480 gallons 28 gallons
Fish.....	57.55	75.45		845 pounds 885 pounds
Coffee and sugar	246.33	255.09	{ Coffee.. 466 pounds Sugar.. 1,713 pounds	528 pounds 2,047 pounds
Fowl.....	221.59	255.48		885 pounds 1,007 pounds
Bread.....	149.19	170.55		1,905 loaves 2,230 loaves
Butter.....	185.00	206.48		580 pounds 605 pounds
Eggs.....	429.05	581.05		1,475 dozen 1,642 dozen
Oranges and lemons.....	186.70	114.25		

Patients' days, August.....4,036  
Patients' days, September.....4,044

TABLE II. COMPARISON OF EXPENSES IN STEWARD'S DEPARTMENT, SEPTEMBER, 1916, AND OCTOBER, 1916.

	September, 1916	October, 1916	September, 1916	October, 1916
Meats.....	\$705.18	\$592.00	{ Beef.. 2,899 pounds Lamb.. 675 pounds Veal.. 696 pounds	2,360 pounds 648 pounds 625 pounds
Milk and cream	422.99	400.75	{ Milk.. 1,480 gallons Cream.. 28 gallons	1,420 gallons 30 gallons
Fish.....	75.45	65.20		885 pounds 755 pounds
Coffee and sugar	255.09	225.67	{ Coffee.. 528 pounds Sugar.. 2,047 pounds	366 pounds 1,580 pounds
Fowl.....	255.48	219.49		1,007 pounds 880 pounds
Bread.....	170.55	174.69		2,230 loaves 2,190 loaves
Butter.....	206.48	207.39		605 pounds 565 pounds
Eggs.....	581.05	574.50		1,642 dozen 1,530 dozen
Oranges and lemons.....	114.25	58.75		

Patients' days, September.....4,044  
Patients' days, October.....3,945

preaching of "economy" is not sufficient. We discovered that, although we had practically the same number of patients' days in September as in August, with one day less to feed employees and nurses, nevertheless we used in September 255 pounds more of meat, 40 pounds more of fish, 62 pounds more of coffee, 334 pounds or one barrel more of sugar, 122 pounds more of poultry, 325 loaves more of bread, 25 pounds more of butter, and 167 dozens more of eggs. This information was a revelation, which inquiry and investigation could not explain. It was too late. There was no way of tracing the cause. And how can anyone

be expected to remember what might have occurred during a period of thirty days? Of two things we were certain, namely: (1) that we were wasteful and unbusinesslike; and (2) that we had no system or means of controlling the situation unless we could have a daily check on what we were doing. Thus, we devised the chart system as

TABLE III. DAILY RECORD OF SUPPLIES USED.

Bread.								
Wards	Old people	Help	Diet kitchen	Doctors	Nurses	Women	Cook	Night
6	2	3	3	3	4	2		8
6	2	2	3	3	4	2		
6	2	2	3	1½	4	1		
		3	3					
Total.....								78½ loaves

Butter.					Coffee.	
Wards	Old people	Help	Cook	Night	First grade	Second grade
1	½	½		½	2	4
1	½	1			2	2
					1	
					1	
Total.....					.5 pounds	
					Total.....	
					12 pounds	

Eggs.								
Wards	Old people	Help	Diet kitchen	Doctors	Nurses	Women	Cook	Night
17½	3	7	8	2		1	3	1½
3			3					
			3					
Total.....								52 dozen

Meat.			Chicken and Fish		Vegetables.	
Beef	Lamb	Veal	Chicken	Fish	Potatoes	
47	35	24	10	25	1	
14					1½	
Total.....			Total 10 lbs. Total 25 lbs.		Total.....	
					2½ bushels	

Milk.								
Wards	Old people	Help	Diet kitchen	Doctors	Nurses	Women	Cook	Night
18	4	3	8	4½	10	2	4	3
5	3	2	4				18	
4	3		4					
40	4		6					
20			8					
			8					
Total.....								185½ quarts, 40 gallons

is explained in Figs. 1, 2, 3, and 4, with the patients as an indicator. The several heads of the departments are required to keep a daily record of supplies used (indicated in Table 3). This record is presented every morning to the superintendent and the items are charted and comparisons made. The superintendent is then in a position to judge whether or not the consumption was

justifiable according to a budgetary per capita allowance. If not, the head of that particular department is called to explain, and we do not have to wait until the end of the month for the information. If the chart of the previous day shows an increase in the number of patients, we justify a reasonable and proportionate increase in the quantities used; if, on the other hand, there is a decline in the number of patients, we expect a reduction.

Thus we commenced this charting system on October 1, with the result shown in Table 2. Hav-

as an indicator more or less. In judging the coal, we, however, take several other factors into consideration, such as the daily number of operations, the amount of linens to be washed in the laundry, etc.

We keep a chart of the telephone calls made daily, and, when there is an unusual increase, we check up the record kept by the operator and try to locate the abuses. This has already cut down our telephone bills. The system lends itself to a study of almost any article or item in which we may be interested. Since the preparation of this

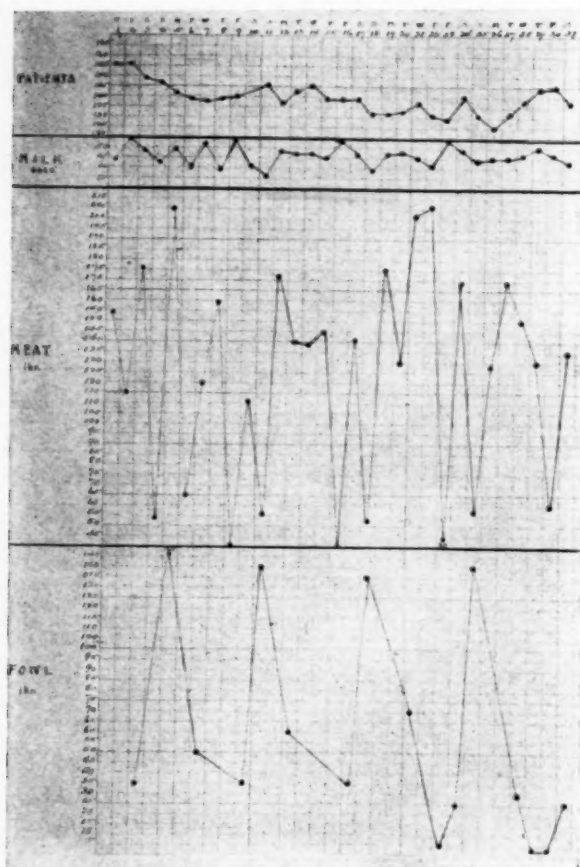


Fig. 1. Chart showing daily consumption of milk, meat, and fowl in March, 1917.

ing the same number of patients' days in October as in September and an additional day to feed nurses and employees, we consumed nevertheless 637 pounds less of meat, 60 gallons less of milk, 130 pounds less of fish, 162 pounds less of coffee, 467 pounds less of sugar, 127 pounds less of poultry, 40 loaves less of bread, 40 pounds less of butter, and 112 dozens less of eggs.

There was, therefore, no doubt of the value of our scheme. We chart not only all foods, but also soap, soda, and starch used in our laundry. We began to weigh the coal thrown into the furnace, so that we know exactly whether the coal-passer is firing judiciously. We chart also the amount of ice pulled daily. The outside temperature is used

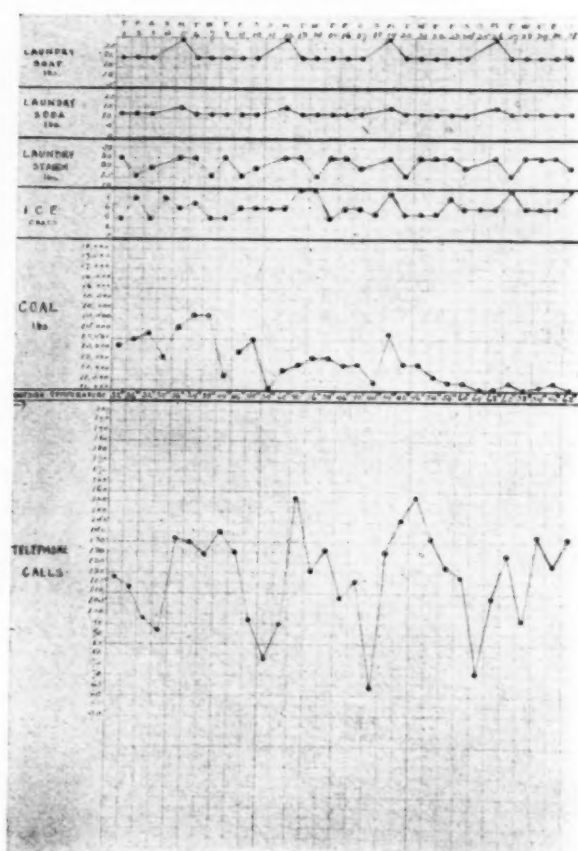


Fig. 2. Chart showing consumption of laundry soap, laundry soda, starch, ice, and coal, and number of telephone calls in March, 1917.

paper we have added to the list a study of gauzes, cotton, adhesive, catgut, and gloves.

The direct results have been advantageous in the following ways:

1. The moral effect has been universally noteworthy throughout the hospital. All employees know that the head of the institution has a daily knowledge of their efficiency or inefficiency.

2. The heads of the departments themselves have a scientific understanding of what they are doing, and can make daily comparisons.

3. The system has stimulated a lively interest in everyone to try and reduce quantities, and at the same time provide the absolute needs.

4. The committee of directors ardently and

eagerly study these charts, carefully asking explanations for seeming rises in the curves, and it affords the superintendent an opportunity to explain authoritatively why the institution has

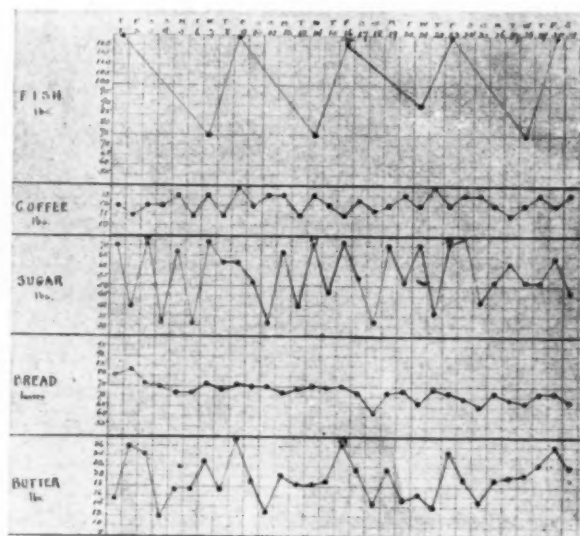


Fig. 3. Chart showing consumption of fish, coffee, sugar, bread, and butter in March, 1917.

spent more or less for a certain article in a given month.

5. The charts are used for inventory-taking monthly. The amount on hand at the beginning of a month, plus the amounts in weight or meas-

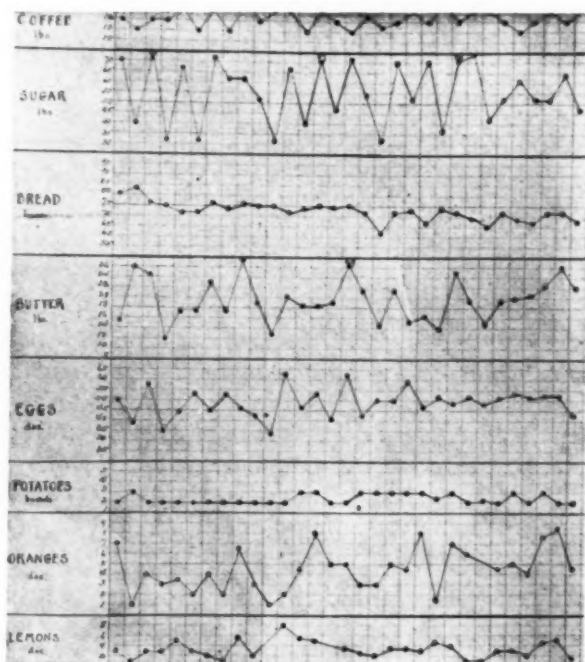


Fig. 4. Chart showing consumption of coffee, sugar, bread, butter, eggs, potatoes, oranges, and lemons in March, 1917.

ure purchased, less the totals of the charts, will show the balance at the end of the month. And we have experienced little difficulty in making these inventories tally. They are usually correct, with now and then a slight variation.

To summarize: During these extraordinary and trying times it behooves us to conserve all of our resources. We are almost unanimously of the opinion that even in the best of well-regulated institutions there is a certain amount of waste. We are therefore naturally concerned in its elimination. The system I have to present may have fallacies which should be overcome and corrected, but from the results obtained, we believe we are working upon a proper principle. If it may help some other worker even in a slight measure, I feel that the short time taken in the presentation of the subject will not have been spent in vain.

#### TUBERCULOSIS HOSPITALS IN PARIS

##### Needs of Municipal Tuberculosis Pavilions—American Red Cross to Visit and Befriend Patients

The following cable from Major Grayson M. P. Murphy, head of the Red Cross Commission to France, has been received by the Red Cross War Council:

"Systematic visitation of municipal tuberculosis hospitals in Paris has just been begun by the American Red Cross. On the first visit inquiries were made of the patients as to what they most needed. On the second occasion the visitors did not go empty-handed; they took with them games, stationery, postage, jelly, colored crayons, sketch books, etc.

"During the past year the city of Paris has established temporary tuberculosis pavilions on the grounds of six general hospitals; the total capacity of these pavilions is 464 beds. Notwithstanding the enormous number of tuberculosis patients in Paris among the refugees and persons invalided from the army, these pavilions are not more than half full. Many factors contribute to this result. The large amount of work thrust upon the civil authorities by the war conditions has not permitted much to make the pavilions attractive.

"The American Red Cross has secured permission to visit these hospitals and to befriend the tuberculosis patients. It hopes that not only will the lives of these patients be made much more comfortable, and their families relieved of anxiety, but that making the surroundings more cheerful, providing additional food, games, better equipment, reclining chairs, and some form of recreation and entertainment, will result in the patients staying for longer periods.

"The use of the pavilions to their capacity would obviate the necessity of erecting additional tuberculosis hospitals with 300 beds, which would involve great expense and long delay."

The Ward liner Havana, recently secured by the Navy Department for use as a hospital ship, is considered easily adapted to that service, and the work of conversion already is under way. While the accommodations to be available depend to some extent upon the alterations, it is believed that it will be possible to provide some 300 beds. This hospital ship and another one to be obtained undoubtedly will be assigned to the Atlantic Fleet.

The Sisters of St. Francis, who conduct St. Elizabeth's Hospital at Utica, N. Y., opened a new \$200,000 building for that institution October 4.



### THE HOSPITAL PROBLEM OF TODAY—WHAT IS IT?\*

#### Amount of Money Invested in Hospital Property—Amount Expended Annually for Maintenance—Number and Character of the Hospitals—What They Are Actually Doing for the Sick—Responsibility of the Medical Profession

By JOHN A. HORNSBY, M. D., CHICAGO

THERE are in the United States 8,667 institutions for the care of the sick, having a total of 875,877 beds. These are general and special acute disease hospitals; they include hospital beds in homes for the aged, for orphans, for the incurable, and hospital beds in penal institutions. Of this total number of hospital beds at least 600,000 are occupied every day in the year.

The proportion of hospital beds to the whole population varies widely for different parts of the country. For instance, in New York city there is one bed to every 130 of the population; in Ohio, taking the state as a whole, there is one hospital bed to each 250 of the population, while in the state of Texas the proportion is as one to 450. The explanation of this is almost obvious. New York city is a great center of tenement houses, with many poor and dependent; Ohio is a state of many cities and towns, but with also a large rural population that is measurably independent of institutional care; while Texas is not only a state of widely spread population, but is made up of people of pioneer character and experience, of less poverty, who are independent and capable of self-care and mutual helpfulness.

Figuring a total architectural and equipment cost at the rate of \$1,500 per bed, which is under rather than over the actual figures, we have a total amount of money invested in hospital buildings and equipment in this country of \$1,313,815,500. It is fair to assume land values for hospital property at 10 percent of the cost of buildings, making a total investment in land and buildings of \$1,445,197,500.

The per capita cost for the maintenance of a patient in the hospital of this country ranges all the way from \$1.25 up to \$7.00. By far the larger number of beds are those in public or charity hospitals, and the per capita cost in these is lower than in any other hospitals. Hence, it is fair to assume that an average per capita cost per day of \$1.50, making a total expenditure for the country for each day in the year amounting to \$1,313,815.50, or a total annual expenditure for maintenance alone aggregating \$479,542,657.50. Approximately 250,000 beds, however, are not occupied each day; the overhead cost of administration is the same whether the hospital be full or

not, but the items of raw food, dressings, and other hospital materials average approximately 50 cents per person, or for the beds unoccupied for each day, \$125,000, or a total of \$45,625,000, which must be deducted from the total cost of maintenance, leaving a net total for annual expenditures for hospital maintenance amounting to \$433,917,657.50. It is believed that hospital architectural expansion, new buildings, and new wings amount to at least 10 percent of the amount invested, or a total of \$144,519,705, making an annual cost to this country for hospital purposes, including maintenance and new construction, of a grand total for annual expenditures amounting to \$578,437,362.50.

These stupendous figures give a pretty definite if incomplete idea of what we call the hospital problem; not included in these figures are public health work of all kinds, dispensaries and outpatient service, social service, bills for medical and other professional fees.

Before we go into a discussion of hospital service to the sick, in an attempt to see just what we are doing, let us now consider for just a moment what the future holds in prospect as the additional hospital problem: Within the past three years two sickness surveys have been made—one under the auspices of the Thomas Thompson Trust, of Boston, and the other in Birmingham, England, one of the most completely hospitalized cities in the United Kingdom. The American survey took in four counties in the state of New York, in which urban, suburban, and rural population averaged that of the country as a whole. All the analyses were carefully and completely made, and at the end it was discovered that about 11 percent of the people who were sick enough to be under a doctor's care were attended in the hospitals of the area and about 89 percent were attended at their own homes. In the Birmingham survey it was discovered that 12 percent of the population were sick in the hospitals and 88 percent were sick in their homes.

In the light of pathological, bacteriological, and the x-ray aids to diagnosis and advances in all branches of science that have been made in recent years, complete reliance on bedside diagnosis is no longer the rule, and in perhaps more than 75 percent of all cases that reach the hospital, laboratory work of some sort is required as an aid to correct

\*Paper read before the American College of Surgeons at its meeting devoted to hospital standardization, Chicago, October 19, 1917.

diagnosis; in perhaps 50 percent of all the cases that reach the hospital, treatment includes vaccines and serums, or the x-ray, or scientific special feeding. These aids to diagnosis and treatment are assembled only in the hospital; they are not available in the home of the patient.

If this statement of the case is true, then approximately 90 percent of the people in such an enlightened country as this and in England are deprived of the best service during sickness that modern medical science has to offer.

Nearly every hospital epoch since hospital history began has been coincident with a war. We are now in the midst of the greatest war that the world has ever known. Hospital progress in the past decade has been more rapid than ever before; then is it too much to predict that just now we are at the threshold of a new hospital era, one that contemplates an almost if not quite complete hospitalization of the sick? If this is true, then the next few years are to witness a marvelous growth in the number of people to seek the hospital when they are sick, and hardly without question the next decade must see an increase in the number of hospital beds in this country, at least four or five times the number we have now. A sudden increase in the demand, up to the maximum which we may expect, is not possible, because there must be an educational period among the public to create a realization of what the modern hospital actually is and the necessity for its use if the sick are to have all the benefits of modern medical discoveries and methods.

So much for the present hospital problem and so much in the way of prophecy for the future. But it is a fundamental principle in any modern business that success will depend in large measure not only on a realization of the assets in the business, but also on the value and extent of the product turned out—in other words, the work that is done. The product of the hospital is health. It is not computable, except indirectly, in dollars and cents, although health is a money asset, demonstrable in that healthiest communities are prosperous and unhealthy communities are poverty-stricken, lack initiative and enterprise, and eventually retrograde rather than progress. Indeed, we now have health insurance, which comes very near to fixing a real money value on the health versus the sickness of the individual.

We have already seen that the value of our hospital plant is over one billion four hundred million dollars, and that nearly five hundred million dollars are expended annually on the maintenance of the plant, an amount that at 5 percent interest would entail an invested or earning capital of ten billion dollars. We must now proceed to

determine the work that is actually being done. Fortunately, the more important phases of the modern hospital problem, under Dr. Bowman's wise arrangement, are left to abler essayists, our discussion being divided into three parts, viz., (1) the hospital problem as it is and the work the modern hospital is doing for the sick; (2) what medical science demands of the hospital that it is not now doing; and (3) how these results are to be achieved.

#### SCIENTIFIC WORK IN THE MODERN HOSPITAL, AS IT IS CONSTITUTED TODAY

A few of the leaders in the hospital world have realized for a long time that definite, tangible progress could come in that field only when there were data at hand, and the necessary machinery that would furnish comparisons as between individual institutions. The difficulty has been to reach a common starting point. We have some pretty definite figures, as we have seen at the outset of this discussion, concerning the character and value of our plant, but we are not very much concerned with that item in considering hospital progress, excepting in so far as the character of the plant lends itself to the output of work. We are very deeply concerned, however, with methods by which may be computed the work itself. There is no good reason why the hospital business should not be considered alongside all other industries in the modern world, and it seems to us that the hospital field is the only industrial field that has no bases of comparison that are of reliable value.

#### COST OF ADMINISTRATION

For instance, there is no accepted formula by which the cost of hospital maintenance can be ascertained. Some institutions figure interest on the value of their plant and money expended for new architecture and elaborate alterations, while other hospitals figure in the per-capita cost of administration only the actual outlay for monthly maintenance, ignoring the items of interest on investments, insurance, taxes, expenditures for the training school, and funds expended for alterations. In the one case we will have an extremely high per-capita cost of maintenance, and in the other a figure so low as to be entirely unjustified by the actual facts.

Then, again, one hospital is merely a boarding house for the sick, without scientific departments of any kind, and without trained people, while another hospital gives a real scientific service to the sick and has in its equipment all the accessories to diagnosis and treatment, and the benefits of trained direction over these scientific departments. And yet the state of the education of the



public is so embryonic that trustees and the supporting public, and even medical staff members, often fail to differentiate between these two institutions, and in their own minds settle the matter as to the better of the two on the cold figures in terms of dollars and cents. This is one serious reason, if not the most important, why hospital progress is so retarded.

#### SCIENTIFIC SERVICE IN PRESENT-DAY HOSPITALS

Ablar men on this program will tell us what modern medicine has a right to expect in the way of scientific service; it is our part to try to evaluate, if we can, the service that is today available in the many classes of hospitals to which the sick have access.

At the outset, let us suggest that no thumb rule can be established for all classes of hospitals, under one heading. For instance, we have not a right to expect the same elaborateness in service in a small, unpretentious hospital in a community not overrich, whose ideals are not high and even whose medical men lack the training and skill and experience of those in larger and broader communities that afford competent material and the essentials to training from which medical men acquire experience and skill. The men in small, isolated communities demand far less—indeed, would not know how to employ—elaborate and technical machinery, whether it be in architecture and equipment or in methods. But we have often said, and repeat now, that no hospital can be better than its medical staff, and no medical staff has a right to expect evaluation of its abilities higher than the *prima facie* evidence at hand in the equipment and methods of the workshop in which their work is done. All of us know institutions, elaborate in architecture, great in size and rich in endowment, that are mere boarding houses for the sick, and it will be found in these institutions that the medical staff is mediocre, without ambition, energy, or enterprise. We all likewise know small, isolated institutions, far out in the country, small in size, poor in worldly goods and almost without equipment, or funds with which equipment may be bought, whose service to the sick is of a high scientific order and in which the sick man, woman, or child may have at his need the best that modern medicine offers. This is the hospital whose medical men go away for study and bring back home with them methods of practice, of diagnosis, of treatment that place their institution far up in the van of the time. So that we may be pardoned for insisting that as the medical staff of a hospital is, so that hospital will be, and we challenge the medical profession in this country and hold its members responsible for

forwardness or backwardness in the character of the institution in which they severally work. This does not mean that the medical staff member must assume or obligate himself to assume any of the functions of the administrator. It is, to our way of thinking, the duty and the privilege of the physician to demand what he needs for the care, cure, and comfort of his patients, and it is the duty of the administrator to furnish what is needed. It has been said that hospital administration costs the money and that the large, rich institution can do things that the small and poor institution cannot do. This is true, but only to a limited extent. The architecture and equipment of a hospital are important items; the work that is done in the institution is the vital thing.

#### RECORD-KEEPING

The patient in the hospital starts with his record, or the reverse is true; the record starts with the admission of the patient. If good records are kept it is almost certain that good work will be done. In perhaps 75 percent of the hospitals in this country, large and small, general and special, the record as it is kept today is practically valueless. It is necessary to statistics to record the patient's name, his address, his social state, the name of his responsible friend, and the location to which he is assigned in the institution. In 75 percent of the hospitals there is no examination whatever on the admission of the patient, and his assignment to a location in the institution is based upon his own statement as to what he is suffering from. No admitting diagnosis is recorded, and in a vast majority of cases no history of the patient's disease is written. This haphazard method of admitting patients is responsible for very many hospital epidemics of communicable disease. A child whose mother says he has a bad cold is placed in a ward with twenty other children. Three days later he has unmistakably scarlet fever and the whole ward is infected.

But the failure to make a record and admitting diagnosis is only the beginning of carelessness and inefficiency. In 75 percent of the hospitals the records do not show a diagnosis after examination, and even up to the moment that the patient goes to the operating room for surgical procedure; in many hospitals this lack is premeditated and is actually intended to cover up and hide carelessness or incapacity on the part of the surgeon to diagnose the disease for which he is about to subject his patient to a serious major surgical operation. That is to say, in 75 percent of the hospitals of this country the scientific auxiliaries to diagnosis are not employed, and medical treatment and surgical interference are undertaken after the

most cursory bedside examination. That was the necessary practice of fifty years ago because there were no scientific adjuncts, the laboratory and the x-ray, to diagnosis. No intelligent community will tolerate it today after being enlightened, and yet it is the practice.

We find that the only part of the medical record of patients in a vast majority of the hospitals of this country is the nursing chart, and that merely records the temperature, pulse, respiration, and medication. It is rare indeed that we find a running, continuous medical story of the progress of the case written from day to day in the record.

There are spasmodic attempts in these 75 percent of the hospitals to make and record urinalyses in special cases, and we find the occasional record of other laboratory examinations, but it is not routine practice. Who is responsible for this? I submit this question to you gentlemen of the medical profession.

In perhaps 25 percent of the hospitals there is a serious attempt to keep a good medical record, and in about 10 percent of all the hospitals the attempt is painstaking and constantly employed and in keeping with the demands of modern medicine. In these hospitals, whether the patient be a service case and a free patient, or a private patient sent in by his physician, there is an examination as a part of the admission routine and an adequate diagnosis recorded. It is the routine practice in these hospitals to begin, through the service intern, scientific work on the patient the moment he is in bed. First a history of the case is taken and recorded by the intern, and this history brings to light, even in the mind of an inexperienced intern, the probable diagnosis. Then the serious work is begun. A urinalysis, single or a twenty-four-hour specimen, is started. A blood count is made and blood pressure taken if there are indications that this is a factor in the case. A sample of the blood is taken for complete examination; a test meal is given for chemical examination of the stomach contents, and, if the story has pointed to the probable importance of the state of the intestinal tract, a sample of the stool is taken for microscopic and perhaps chemical examination. If the story points to the likelihood that the x-ray, either in fluoroscope or plate, may be of value, that work is done. Meanwhile the patient is put to bed and fed sparingly.

Presently the visiting medical man, the patient's physician, sees him, and there are presented to him on the chart data that in 90 percent of the cases will give him his diagnosis.

Some two or three years ago a survey was made of the autopsy records in Bellevue Hospital, New York, and the statement was published, as a re-

sult, that in 50 percent of the cases that went to autopsy the diagnosis was wrong. These figures were so startling that we took the liberty of making some inquiry concerning the method employed to obtain them, because if less than one-half of the cases that went to autopsy in an institution like Bellevue Hospital, with the splendidly equipped medical men in practice there, were correctly diagnosed, what was to be assumed as the state of things in less fortunate institutions?

We found that these figures were taken from approximately 300 selected cases, that very many patients arrived at the hospital comatose and moribund, and that some of them died almost immediately upon arriving there. So that we may be forgiven for challenging any set of figures built in this way and for saying a word of defense for the American medical profession, whose ability, we believe, is not represented in any such state of affairs, and we believe we are safe in saying that in the seriously minded hospitals of this country, whose medical men are of average ability and who are enterprising and industrious, diagnosis is humanly possible with the help of present-day mechanical agencies in a very large percentage of cases, and we believe that diagnosis at the end of the knife is unnecessary except in a comparatively small number of cases.

Let us not be understood as insisting that a hospital, in order to be accorded the right to exist and to care for the sick of its community, must perform the intricate and higher technical things in diagnosis. We believe that a small community, whose hospital must make an unpretentious beginning, will be excused and justified if it does merely the best its facilities and equipment and the skill of its medical men will allow. But in such a hospital the unforgivable thing, to our way of thinking, is dishonesty in the work it does. This is not an indictment of the physician; it is a warning that medical men are being made the victims of this species of dishonesty, and that they and their patients are the sufferers. The medical men in such a hospital will be abundantly justified if they must rely on bedside diagnosis only—the eye, the ear, and the touch—but the hospital itself will never be justified in assuming to perform service that it is incapable of doing accurately and with assurance to its medical men that the service performed is honest. There are many methods that may be employed by these small hospitals for doing much of the work that they are not now doing. The joint employment of trained directors for part-time service can, in a vast majority of cases, be substituted for all-time salaried, trained people, and it will be far better for such a hospital



to employ for its laboratory work a properly trained man, who can give it only one day in the week, or one hour in the day, whereas the hospital will never be justified in offering to its medical men the services of an incapable and inexperienced pathologist, even when such person might be available for all of his time.

It will nearly always be possible for these small hospitals to have a competent pathologist for half a day in each week, even though he may live fifty miles away at some other larger center, and a great majority of hospital patients can better afford to wait for such accurate examination and diagnosis than to have a less competent pathologist guess on their cases.

And so with the x-ray work of the institution. Almost any hospital employee, an intern, the pharmacist, the head of the training school, even an intelligent pupil nurse, may be taught, in a short time, to take pictures of the long bones in cases of fracture and pictures of metallic foreign bodies. Most other cases will wait until the consulting radiologist is due to spend a day or half a day in the institution, but the hospital will never be justified in substituting for a trained operator and a trained interpreter someone whose pictures are badly done and who is utterly incapable of interpretation. And yet that is exactly what many hospitals in this country are doing today—using inefficient, untrained x-ray operators who are utterly incapable of interpreting the plates they take or the fluoroscopic picture they may see. Even the best surgeons in this country, men who are internationally known as diagnosticians and operators and who have had large experience in the observation of results of x-ray work, decline to interpret for themselves and rely for interpretation upon the trained and capable roentgenologist.

#### MODERN DIETETICS

Less than a month ago, I visited a large modern hospital in an important central western city, a hospital of 400 beds employing high-salaried administrator and associates. I found installed there as dietitian a trained woman who was being paid a large salary, as such salaries go. She had been there for a year; she had come from the position as dietitian in one of the foremost hospitals in this country, whose medical men are known round the world for their ability and progressiveness in internal medicine. This woman had been thoroughly trained to support the physicians and to feed their patients, specially in diseases of metabolism. In other words, she was thoroughly equipped for the work for which she had been employed. I asked her what she was doing. She

said she was making up the trays for the private patients.

"Yes, but I mean what scientific work are you doing with your doctors?" I asked her.

"Nothing," she replied.

"Why?"

"Doctor, I have been here a year," she replied with suppressed feeling that I had not expected, "and I have not been asked by a single physician in the hospital to feed a patient specially, nor have the doctors, any one of them, taken the slightest interest in anything that I might be able to do."

She added, however, that on her own initiative she was at that moment engaged in the special feeding of a diabetic patient in the free ward; but unfortunately, she said, she had no urinalysis and no blood picture, and the patient was not being weighed.

I happened to know that the superintendent was a medical man of high ideals who had brought that woman into his hospital for the purpose of giving to the patients, through their doctors, real scientific service. I had occasion, later in the day, to announce to a large contingent of the medical profession of the city that their hospital was decades ahead of them—and that was the case.

I am repeatedly in receipt of letters from dietitians throughout the country, women of high education, of elaborate special training, and of intelligence and ability, who complain that they are given no work to do in the special feeding of cases in their institutions and that their energies are confined, through no fault of their own, to "making up the trays for the private patients."

I think that perhaps twenty hospitals in this country, ranging in the number of medical men taking part in each instance from one to five doctors, are actually employing the services of a trained dietitian in a scientific way in the special feeding of selected cases. Four years ago I made the statement that there were perhaps half a dozen capable dietitians in the United States. My statement was refuted from many quarters. I now make the statement that there are twenty capable trained dietitians in the United States who have the ability and necessary training to support the scientific internist in the feeding of special cases in diseases of metabolism. I make the prediction that in two years from now there can be more than one thousand trained competent dietitians in the hospitals of this country, provided the medical staff members specializing in internal medicine utilize them and help to perfect their training.

Nearly all hospitals have the old formula of "special diets." We know, however, that most of

these special diets are valueless, and that, in the light of studies in metabolism and in the physiology of digestion, they are based upon wrong principles and exploded theories. And yet we find these special diet charts in the serving rooms of nearly all hospitals, and in most of these they are exalted into actual fetishes.

#### SOCIAL SERVICE AND FOLLOW-UP WORK

It has been the complaint almost throughout this country for a decade that the hospital is a place for the millionaire and for the pauper, but that 90 percent of the population, people in moderate circumstances who would refuse charity and cannot afford the luxuries of the modern hospital, have been without consideration. Those of us who have been closely in touch with modern hospital practice know that this indictment has been largely true. There seems now to be dawning a time when it will be no longer true. In the first place, it seems to me that private patients in moderate circumstances have been educated to the point that they no longer demand the luxuries of private rooms and special nursing and special menus, and that they are coming to be more and more content, as time goes on, to go into the small two-bed and four-bed wards of the hospitals and realize the value of the undergraduate pupil nursing. It seems also that this class of patients are coming to realize that the hospital is not a hotel with the special function to minister to dainty luxurious appetites for rich and costly foods, but that the plain and simple things agree best with sickness and agree best with most patients. It seems to us that these are the first steps in any serious attempt to give a greater consideration to the vast middle class of people in this country.

And we have now gone a step farther and are making some serious attempts, at least in a few communities, to care for the out-patient who would reject charity and who cannot afford the luxuries of visits to the private offices of physicians. The day clinics in New York are an example; the newly formed Scripps Foundation, of San Diego, Cal., is such a clinic. A few isolated hospitals, here and there, are attempting precisely the same thing, through well-organized groups of medical men who coordinate their efforts in special branches of medicine and who cooperate in the diagnosis and treatment of cases for a lumped fee. The trend in this direction is going even a step farther, and in a number of isolated places medical staffs of hospitals have been put on salaried, full-time service, and their special abilities and energies are being coordinated in the diagnosis and treatment of patients—for one fee. The necessity for this service is in response to a defi-

nite public demand, a demand coupled with the complaint that medicine has become highly specialized and that a patient who needed the services of several specialists in the diagnosis and treatment of the disease was unable to pay consultation fees to several men in several branches of medicine. However much we may assume that this trend is likely to interfere with the earning power of members of the profession, we may just as well make up our minds that exactly that contingency is facing the profession today. I am not undertaking a solution of that problem. I am merely warning that the problem is here, and is only another expression of that far greater and more serious problem facing the American profession, state medicine.

One of the very greatest deficiencies in our hospital records, and consequently one of the most important items of hospital and health statistics, is the almost total absence of follow-up work. I happen to know one institution, exclusively surgical in character, that spends large sums of money and employs a corps of trained people to follow up to their homes, over long periods of time, every patient operated on. Only recently it fell to my lot to look over some of these records, and I was astounded to find that eager, anxious, ambitious women, with the stimulus of an insistent demand from the surgeons, had been enabled to follow a large percentage of their cases more than two or three years. And yet we know that surgery is successful only as a permanent cure or as a definite preannounced period of relief. Many patients get well, apparently, and go back to their homes greatly relieved following a surgical operation, only to have the disease recur after a brief interval of relief. Many thousands of these cases are reported by members of the surgical profession as cures, when, as a matter of fact, a correct diagnosis had not been made even on the operating table and no relief whatever had been afforded; the only thing that had been accomplished was that the patient had been subjected to the pain, distress, and hazard of a major surgical operation that had dwarfed to the point of exclusion the original trouble from which he had suffered.

If this means anything, it means that measures must be taken by the hospitals of this country to follow patients back to their homes and to a period of complete cure—or to recurrence—before the record of the patient can be completed and reported for the purposes of the literature.

It would be far pleasanter to me to have penned and read to you a eulogy of American medicine—to have painted for your edification an apotheosis of the American profession—but the task that



was assigned to me claimed out of my somewhat varied experience a story of actual achievement. It is a plain, unvarnished tale of modest accomplishment, as I have told it. It has pictured the god of science walking with feet of clay, but if the

pathway shall lead to the higher heights, into realms that now seem to invite and permit the entrance and habitation of only the superman, we shall feel abundantly rewarded for the exceedingly small part we have had in pointing the way.

### OIL AS FUEL IN INSTITUTIONS\*

#### Comparative Cost of Coal and Oil as Fuel in Hospitals—Advantage of Equipment Permitting Ready Change From One Fuel to the Other

By JOHN M. PETERS, M. D., SUPERINTENDENT RHODE ISLAND HOSPITAL, PROVIDENCE, R. I.

**I**N most institutions the cost of fuel used for heating, power, and light is the largest item except that of pay-roll in the current expense account. The cost in a given institution depends on many factors: the location in relation to the source of supply; the character of buildings, whether of group or isolation type, one or many stories; whether the fuel is used to generate electricity for light and power as well as for heating; whether exhaust steam from engine is utilized; the pressure of steam; the character of piping; use in laundry, kitchen; system of heating used, whether direct or indirect, etc.

Up to within a comparatively few years, coal of different kinds and grades has been the almost universal fuel. Although petroleum has been used for centuries for different purposes, it was not until 1859, when the first producing well was drilled in Pennsylvania, that its commercial possibilities became well known. In that year the total yield of petroleum was only 6,340 barrels. Since then oil has been discovered in all parts of the world, and in 1915 the production was 426,695,347 barrels, of which the United States produced 306,484,728 barrels, or 72 percent.

The countries producing the largest amounts in 1915 were: (1) United States, (2) Russia, (3) Mexico, (4) Dutch West Indies, (5) Roumania, (6) India, (7) Galicia.

Oil was not produced commercially in Mexico until 1909, but in 1916 the production was 40,000,000 barrels, and the country is said to contain the largest oil fields in the world.

The development of the production during the last few years of a large supply of petroleum of a heavy gravity and asphaltic base, in California, Texas, Louisiana, Oklahoma, and Mexico has been the cause of this unusual development in the use of oil, not only as fuel, but for use on roads, roofs, etc.

These oils contain 10 percent to 50 percent of asphalt and a smaller proportion of lighter hydro-

carbons, and the residue after partial distillation represents a large part of the original crude oil which is suitable, so far as is now known, only for fuel oil, road oils, asphalts, and their by-products.

Although crude oil is used as fuel in some places, especially in the oil regions, greater precautions to safeguard in its use, because of its low flash point, must be taken.

Fuel oil is more satisfactory and safer for burning purposes than is crude oil, because by its partial distillation the light and highly inflammable products, together with the water which invariably is found with crude oil, have been removed.

Oil that is properly distilled can be used as a fuel, when storage tanks and oil-burning equipment have been properly installed, as safely as can coal.

To discard all steam-generating equipment and install other types of power units is out of the question, but a change of fuel, or rather, ability to change readily from one kind of fuel to another when advisable, is possible and deserving of serious consideration by every power-house operator. The logical and practical substitute for coal is oil, and with these two practical fuels to be obtained in many localities, it is well for the management of every power house so situated to consider the advisability of being able to change from one to the other.

Oil, as a fuel, has long passed the experimental stage, for every type of steam-generator—on rail, afloat, or stationary—has been economically, satisfactorily, and efficiently operated on oil as well as on coal. In fact, under some conditions, oil has entirely superseded coal as fuel, and the absence of standby losses daily adds to the triumph of oil. The oil supply as yet is limited, however, and cannot be counted upon at all times in all markets, the fluctuations in price of oil until recently being greater and more sudden than those of coal. As an auxiliary fuel—one that is made use of only occasionally in emergencies—it may be found convenient and economical.

\*Read before the American Hospital Association at its nineteenth annual session, Cleveland, O., September 12, 1917.

In order to create a ready sale for oil, it has become necessary to develop a fuel oil market, and to do this the oil companies have built large storage stations in the principal ports of the United States where fuel oil could be brought directly from the oil fields to pipe-line terminals in large tank steamers.

It is now possible to obtain fuel oil in nearly all the large ports of the United States. This has assured the manufacturer and steamship operators of a constant supply, and in order to make the proposition still more attractive, some of the oil companies offer long-term contracts of from three to five years at a fixed price.

In order to utilize the heat value of fuel oil, it must be changed from a liquid into a spray consisting of fine particles of oil floating in and surrounded by air. In this condition it can be easily ignited, and the value of the oil as a fuel will be directly proportional to the fineness of the spray. Each particle of oil must be supplied with the necessary amount of air so that a complete union may result when the temperature is raised to the ignition point, the resulting product being carbon dioxide, water, and other oxides, if sulphur is present.

A great waste of fuel will result if the proper mixture of air and oil is not secured and constantly maintained. If too little air is admitted to the furnace, more or less heavy smoke will be produced, but if too much air is admitted, while it cannot often be detected by the eye, there will be a corresponding loss in the heating value of the fuel. It is, therefore, a matter of great importance that the exact amount of air for combustion be admitted to the furnace along with the oil spray, so that the maximum heat value in the oil may be obtained.

Installation of an auxiliary oil-burning system necessitates only a few minor alterations to the ordinary coal-burning steam plant, the addition of the necessary piping and but little mechanical apparatus. The burners themselves should be located in the furnace door, either in openings cut in the regular door to admit them, which can be closed again when coal burning is resumed, or else in extra furnace doors of firebrick for use only when burning oil. The remainder of the equipment consists of the reservoir or oil tank, which should preferably be located underground and away from the boiler room; apparatus for pumping the oil from the reservoir, for subjecting the oil to pressure before it is delivered to the burner, and means for preheating the oil, all of which operations may be performed by one piece of mechanism situated in a convenient location in the boiler room; a steam connection for vaporiz-

ing the oil; and the piping necessary for connecting up the system.

The steam connection consists simply of a pipe from the top of the boiler to the burner, with a reducing valve along the line, before it is delivered to the burner through the regulator. The regulation of oil and steam at the burner is often accomplished by simple hand valves forming part of the mechanism of the burner, but automatic regulators which control the amount of steam and oil as the load varies are more dependable. The admittance of air to the combustion chamber takes place through the firebrick covering necessary to protect the grates and exposed metal parts of the combustion chamber from direct contact with the flame from the burners and should be only rapid enough to assure proper combustion.

The first question that naturally presents itself to the power-house operator is: for the generation of steam, when is oil as economical or more economical a fuel than coal? It is upon this point that the "evident" wisdom of an auxiliary oil-burning system depends. "Evident" is emphasized, for other points pertaining to the elasticity and convenience of a plant equipped to operate on two fuels, while less obvious, are important. To analyze the "evident" points, the average total cost of developing one horsepower, including all expenses of operation, maintenance, and the burden of interest on original outlay, taxes and insurance on equipment, for a plant developing 500 horsepower, has been ascertained: (1) for a coal-burning plant; (2) for a plant burning coal, but equipped to burn either coal or oil; and (3) for such a combination plant burning oil, but equipped to burn coal.

It has been shown that, in a plant equipped to burn either coal or oil, oil at 2.6 cents per gallon is as economical a fuel as coal at \$2.60 per ton, and that a coal-burning plant could deliver power at such a rate only when coal was less than \$2.76 per ton.

It is true that the addition of oil-burning equipment to a coal-burning plant adds to the burden of interest, taxes, and insurance, but this increase is comparatively small—equivalent to adding 6.18 cents to the price of coal per ton—and may be taken care of by a judicious purchasing agent taking proper advantage of the usual spring cut in the price of coal when placing coal orders, and purchasing fuel oil when that commodity is procurable at an attractive figure, and by an economical operator who works with the purchasing agent in keeping the expense for fuel at a minimum, operating on oil when advisable, and vice versa.

Inasmuch, therefore, as the initial outlay neces-



sary for equipping coal-burning furnaces with auxiliary oil-burning apparatus is inconsiderable; as the average cost of one fuel amounts to about the same as the average price of the other in many localities; as there is no increase of labor required for oil burning over that required when using coal as fuel (on the contrary, a considerable saving may be made in the pay-roll); and inasmuch also as almost invariably oil may be obtained at some time during the year as readily and as advantageously as coal—there would then seem to be no reason why any plant need experience a shutdown from that state of affairs so much dreaded at the present time, namely, a shortage of coal.

Plants which would show the greatest saving by adopting fuel oil come under the following classes:

1. Plants in which the cost of coal handling is high. This may be due: (a) to the location of the plant in respect to tidewater or railroad delivery, or (b) to inadequate coal-handling machinery or to the fact that its installation would not be justified by the saving effected.

2. Plants that have a high fire room labor cost.

3. Plants which have limited boiler capacity or their capacity limited by their stack area.

4. Plants located in districts where smoke ordinances are strict.

These savings are clearly illustrated by considering the following advantages obtained by the use of fuel oil:

1. (a) Higher efficiency, due to more perfect combustion with less excess air, and, accordingly, less heat lost up the stack; (b) a more equal distribution of heat in the combustion chamber, as the fire doors do not have to be opened; (c) more heat absorbed due to the clean condition of the tubes.

2. No cleaning of fires is necessary, which enables the boilers to be operated at their maximum capacity continuously.

3. A reduction in the cost of handling fuel, as this is done mechanically or by gravity. No expensive conveying or elevating systems are necessary, as fuel oil is delivered by either pumping or running the oil by gravity into the fuel storage tanks. This is an economy, not only in the cost of handling fuel, but also in the first cost of the plant.

4. Reduced cost of maintenance. No firing tools or grate bars are necessary, and accordingly the furnace lining and brickwork last longer. The burning out of grate bars in a coal fire, especially when automatic stokers are used, is a constant source of expense, as is also the damage to furnace linings caused by the use of firing tools and the removal of clinkers.

5. Absence of coal dust, dirt, and ashes, which enables the boiler room to be kept clean, and accordingly reduces the wear and tear on pumps and other machinery; also the cost of handling and removing ashes is entirely eliminated.

6. Ease with which fires can be regulated from a low to a most intense heat in a short time. The use of fuel oil enables the engineer to leave his plant standing cold to within a short time before the boilers have to be cut in on the line. The burners are then lit, and in a few minutes the boilers will be at full working pressure. Fluctuation in boiler loads can be taken care of on a moment's notice by simply turning the oil and steam valves, and as soon as the demand ceases the fires can be at once turned down to normal or extinguished entirely, as the occasion demands.

7. Saving in labor of all kinds—firemen, coal passers, and ash handlers—as only one fireman is required to operate from ten to fifteen boilers. An example of this economy is well represented in a large plant in New England equipped with 15 Babcock & Wilcox boilers aggregating 5,500 horsepower, which operates three eight-hour shifts per day. When coal was burned sixty-three men were employed in the boiler room, but after the plant was converted to a fuel oil this number was reduced to seven.

8. Great increase in boiler capacity, depending on the grade of coal used and the draft conditions. Generally from 10 to 15 percent increased capacity can be obtained by using fuel oil, and, as the stack area required for burning oil is only 60 percent of that required for coal, 40 percent more power can be developed from the same stack.

9. Absence of smoke. The increased attention given to smoke laws by the various boards of health throughout the country has made the producing of smoke in a plant a serious question. In a properly handled oil-burning plant, smoke is eliminated entirely, except in a few cases when the stack will smoke for a short period while the burners are being started up from cold.

In the last fifteen years many patents have been taken out on various types of oil burners, but, disregarding the small structural differences between them, they can all be brought under three distinct classes, each of which has its own particular field. These are:

1. Steam jet, which use steam as the atomizing agent.

2. Air jet, which use compressed air.

3. Mechanical, which use neither steam nor air, but break up the oil by heat and pressure and the mechanical construction of the burner.

In order to obtain high efficiency with fuel oil, no so much depends on the type of burner selected

as on the manner in which the oil-burning equipment is installed and operated. Therefore, the work of equipping a plant for fuel oil should be left entirely to those who have had extended practical experience in the burning of oil under all types of boilers.

In nearly all fuel oil installations under stationary boilers steam is used as the atomizing agent. Experiments have shown that it takes practically the same amount of steam to operate an air compressor for supplying compressed air for atomizing as it does to atomize the oil direct with steam, and the additional investment and upkeep involved makes its use impracticable for general boiler practice.

The chief requirements for burning fuel oil efficiently are as follows:

1. The oil must be thoroughly atomized.
2. After being atomized it must be brought into intimate contact with the requisite quantity of air for its combustion, and this quantity must be at the same time a minimum to lower the losses in the stack gases.
3. Combustion must be complete before the gases come in contact with any firebrick or boiler-heating surface.
4. There must be no localization of heat in the furnace.
5. Bridge walls and target walls should never be used.
6. The furnace should be designed to give depth and volume, which are determining factors affecting furnace efficiency and capacity.
7. A fishtail flame burner is most satisfactory, as it spreads out the oil in a thin sheet and provides for the most economical use of air for combustion.
8. The oil should be heated to the correct temperature before it is atomized, this temperature varying with the particular oil used. If the oil is heated above its fire point, it will disintegrate and carbon will be formed, which will tend to clog up the burner, and if the oil is not heated sufficiently, perfect atomization will not be obtained and imperfect combustion will follow.

One of the most important questions in the combustion of fuel oil is the regulation of the air supply. In a properly designed furnace the grate bars are removed and a firebrick floor with carefully planned air openings is laid on pieces of 2-inch pipe extending across the fire box. The air supply is admitted through these openings in the furnace floor so that it will come in close contact with the atomized oil, and perfect combustion will take place before the gases come in contact with the heating surface of the boiler.

The required amount of air should be regulated

by opening or closing the stack damper, and not by opening or closing the ashpit doors, which should be left open at all times. Regulating the air supply is generally done by hand, but a more satisfactory and economical way is by the use of an automatic damper regulator, which is operated by the gas pressure in the furnace. When a change in the gas pressure occurs, the regulator operates the flue damper in such a way that it counteracts the change in pressure, tending, therefore, to maintain a uniform pressure in the furnace chamber for all rates of combustion.

A perfectly clear stack indicates excess air, whereas smoke indicates a deficiency. With properly designed furnaces the best results are secured by running near the smoky point. A slight variation in the air supply will affect furnace conditions in an oil-burning boiler more than the same variations where coal is used, and therefore particular attention should be paid to this point.

Fuel oil installations should be as far as possible in duplicate. Since all the burners are connected on one main feed line, cross-connected duplicate pumps should be installed, so that the shutting down of one pump for repairs or any other cause will not necessitate the closing down of the plant.

Under favorable conditions 1 pound of oil will evaporate from 14 to 16 pounds of water from and at a temperature of 212 degrees F.; 1 pound of coal will evaporate from 7 to 10 pounds of water from and at 212; 1 pound of natural gas will evaporate from 18 to 20 pounds of water from and at 212.

From many tests made in New England mills, it has been found that 4.2 barrels of Mexican oil are equivalent in heating value to 1 long ton (2,240 pounds) of Pocahontas coal.

Although a fair idea may be obtained of the comparative cost of coal and fuel oil by making certain assumptions in regard to heat values, gain in efficiency, saving in labor, still this will not enable one to figure the exact saving which can be made by changing from one fuel to the other. The reason for this is that the saving may often depend to a large extent on other things than the cost of fuel and the saving in labor, such as increased capacity facilities for fuel storage, advantages of pumping fuel oil over methods of handling coal, saving in banking fires, elimination of smoke and dirt, all of which will generally show a saving that cannot be figured out in advance in dollars and cents, but would in many cases throw the ultimate cost decidedly in the favor of oil. The only way to determine the exact saving is to operate the plant with each fuel for a period long enough to get accurate data on all items entering into the question.



At the Rhode Island Hospital, for nearly twenty years or more, Pocahontas, a high-grade bituminous coal, was used until August, 1916, when, through the wisdom and generosity of the president of its board of trustees, an oil-burning equipment consisting of a Worthington duplex pump and a storage tank of 25,000 gallons capacity, placed under ground 40 feet from the boilers, was installed, and the simple necessary changes made in the fire box for placing the Hammel burners were made. The cost of the whole equipment and the necessary changes was about \$4,500, and the installation and changes made in summer when only a small part of the plant is in use did not compel us to shut down our plant at any time.

We have used the Hammel oil burners and purchased our oil from the Mexican Petroleum Company, and the cost for fuel (at \$1.15 per barrel of 42 gallons, for ten months, October, 1916, to July, 1917, inclusive) was \$14,549.27 as compared to \$12,963.62 for the preceding ten months, when Pocahontas coal at an average cost of \$4.40 per long ton was used.

As regards the prices quoted above as paid for fuel, a contract for a five-year supply of oil was made when it was decided to use oil as fuel, and the price paid for Pocahontas was unusually low because of certain favorable purchasing conditions.

If we were using coal instead of oil this past year, the cost, of course, would be enormous. As regards other advantages, we have had no complaints from the smoke inspector; we have saved the carting of ashes, we have much cleaner boiler and engine rooms, and have had less damage to our power plant. We have much less soot and dirt in all parts of our buildings and therefore less cleaning and less wear.

We have two strings to our bow: we can change from the use of one fuel to that of another in twenty-four to forty-eight hours in case either fuel cannot be obtained or in case the price of one is prohibitive.

Our boilers were made by the Babcock & Wilcox Company and are 550 horsepower capacity. With the use of coal their capacity was strained in very cold weather, and, if additional buildings were erected, it would be necessary to increase our boiler capacity, and this, in our case, would have meant the expenditure of a large sum because of the necessity of erecting an addition to our boiler room and making some very important structural changes, which would have cost dearly.

With the use of oil we feel that we have gained at least  $33\frac{1}{3}$  percent in heating capacity, and, when a boiler which has been in use twenty years or more is replaced by a larger one of a more mod-

ern type, we can easily furnish steam enough to care for the needs of several large additions to our plant.

Most of the subject matter of this paper was taken from papers written by experts in the use of oil as fuel, and I wish to make acknowledgment especially to Frederic Wing, engineer, of the Mexican Oil Company, from whose paper, "Fuel Oil for Stationary Plants," read before the A. S. M. E. in Boston recently, I have drawn very freely; to W. F. Ross, of the Hammel Oil Burning Equipment Company, and to editorials and papers published in the magazines *Power* and *Practical Engineer*.

#### Military Hospital in France Controlled by Women

The medieval and the modern join hands in wonderful accord at an old abbaye within thirty miles of Paris, where the romance clinging to an ancient building of ancient architecture, once the sanctuary of peaceful devotees, is transfused into the living drama of heroic men and ministering women whose parts are written by the point of the sword.

This Abbaye de Teyaumont is now one of five hospitals financed, initiated, organized, and staffed by the Scottish Women's Hospital Fund for the allies' wounded in their own country. It is known as Hôpital Auxiliaire No. 301, affiliated to the Société Française de Secours aux Blessés Militaires, and under the British Red Cross.

The surgeons, with Miss Ivens at their head, numbering, with the bacteriologists, seven, wear a simple uniform of gray linen, with the silver badge on velvet of the French medical service on their collars. Comely, capable women, as sincere as they are skillful at their work, they are no longer supervised in operations (as at first) by French surgeons, because it was recognized after a few days that their profession was backed by expert performance. The badly wounded men who come there feel confidence in these marvelous fingers, whose dexterous accuracy of touch is enhanced by softness, and they are soothed by the feminine voices.

These lion-hearted women are performing as many as a hundred and fifty or more operations in a week. They avoid amputations wherever possible, of course, and one man whose hand seemed hopelessly crushed, owes the restoration of three fingers to their expert method of repair.

Such work as is being carried on by British women in France and elsewhere, must surely bring England into close and sympathetic touch with her allies. The men who leave the abbaye healed of their wounds (for only 3 percent have succumbed hitherto) will not fail to remember, and to tell the women at home who are dear to them, of those other women with "the strength of silk who came across sea and land to be sisters to the brothers-in-arms of their country."—*Hospital World*, Toronto, Canada.

The Massachusetts State Guard has adopted a portable hospital unit designed by its chief surgeon, Dr. William A. Brooks. It consists of four buildings—an operating room, a ward room, a kitchen, and a staff headquarters. The buildings can be easily erected, and can be dissembled, packed, and transported in a short space of time, obviating the necessity of moving injured persons over distances to available hospitals. The unit has a complete equipment of hospital appliances, and can accommodate 125 patients.

**REDUCING THE HAZARD TO LIFE IN NON-FIREPROOF HOSPITAL BUILDINGS****Extent and Character of the Danger—Impracticable and Dangerous Devices Advocated by Some—Method of Sectioning Buildings by Fire Walls**

By H. F. J. PORTER,\* M. E., NEW YORK.

SEVERAL holocausts having occurred in hospitals and asylums of Canada and the United States during the past winter, drawing the attention of the country generally to the necessity for increasing and improving the facilities for safeguarding the inmates of these institutions from the fire hazard, I feel that it may be of interest to describe some work which has just been completed in the hospitals and other institutional buildings of the department of public charities in the city of New York, about 200 in number, for the protection from fire of the bed patients and others equally helpless. Preliminary reference to the work was made in THE MODERN HOSPITAL in November, 1914, and January, 1915.

The commissioner of public charities had previously authorized a comprehensive report on the fire hazard to life in all the buildings of the department, and the recommendations in this report formed the basis of the improvements now made. Mr. A. L. A. Himmelwright and I submitted the original report and were engaged to prepare plans and specifications and supervise the work of construction and installation.

The buildings under the jurisdiction of the department of public charities are, with few exceptions, quite old and consist generally of the type known as "non-fireproof"—that is, with masonry walls, wood floor and roof construction, and wood interior finish. These buildings house many thousands of sick, injured, blind, feeble-minded, cripples, and otherwise helpless persons of all ages from babies to the very old.

In case of fire, stairways and fire escapes, which are the ordinary exit facilities provided in such buildings, cannot be used by these people, because they are physically unable to move and help themselves, and some are in such a condition that they cannot be moved even if the nurses and attendants regularly employed were sufficient in numbers, which they are not, and, therefore, the latter would be able to save only a small percentage of the large number housed in these buildings, and the rest would inevitably perish. It is difficult to appreciate the fact that, should a fire get control in any of the thousands of hospitals all over the world except the few which are built absolutely fireproof, the physically help-

less patients must be burned up. Yet such is the case.

Realizing the seriousness of the situation, the authorities had provided in the largest and most crowded buildings a type of steel chute similar to the cylindrical "down-and-outs" one sees at Coney Island and recreation resorts, into which it was proposed that some of the hospital attendants would throw those patients who were so incapacitated that they could not go down the outside fire escapes by themselves, and when they had slid down to the ground other hospital attendants were expected to carry them away and make some suitable provision for them.

These chutes had, however, been found totally impracticable for the purpose. In fact, it was realized that more people would be injured and killed by their use than could be saved from the fire and they were not put into service.

About three years ago, shortly after the "Triangle" fire, I brought to the attention of the public a system of "horizontal escape" which I had introduced into high, crowded factory buildings and which obviated the necessity of taking the people down stairs at all in case of fire. I pointed out that, as ordinarily constructed, elevators, stairways and fire escapes under emergency conditions were almost always sources of congestion, panic, and frequent loss of life, and that "vertical escape," down through the fire, in order to get away from it, was irrational.

The "horizontal escape" proposed was obtained by introducing a dividing fireproof wall across the building extending from cellar to roof, with a doorway in it on each floor protected by standard fireproof doors. In case a fire should occur on any floor on one side of the wall a properly designed fire signal would notify the people on all the floors on that side of the wall, and they would immediately pass through the doorway to the other side of the wall and close the fireproof doors after them. The barrier thus formed against the fire would make them as safe as they would be in a separate building in which there was no fire. From whatever floor they happened to be on, they could reach the ground at their convenience by elevators or stairways.

In hospital buildings this method of saving the bedridden and otherwise helpless patients involves wheeling them in their cots through the doorways to safety without disturbing them. The

\*Mr. Porter has tendered his services free through the subcommittee on hospitals of the Mayor's Committee on Defense of New York City to plan and supervise the sectioning of any hospital which is tendering its facilities free to the nation in its present crisis.



is of the beds being provided with special swiveling casters for this purpose, the nurses attendants simply lift the bed by its foot and slide it and the patient out of danger.

In the matter of fire signals, which are an essential feature of this plan, steam whistles, large gongs and telephones, the noise of which is known to have a bad effect upon the sick and helpless, were eliminated and flash lamps and

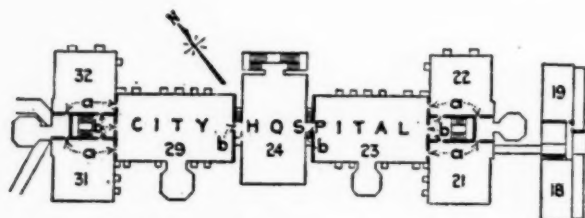


Fig. 1. Plan of City Hospital building, showing old walls utilized as fire walls. Heavy lines indicate old walls utilized as fire walls. Letters a and b indicate type of fire doors.

tappers substituted in their place. These signal in the endangered section only and not in the adjoining section.

In the dormitories and service buildings, where the attendants are whose assistance would be required in case of fire, loud signals are utilized.

In many of the older buildings of the department of public charities, existing walls were found in strategical positions which at very little expense were developed into fire walls without undue annoyance to the patients or in any way changing the regular and accustomed use of the space within the building. In fact, it was found that very few new fire walls had to be constructed.

A great advantage possessed by this method of protection to property and life is that it limits the fire hazard to a fraction of the property, and a correspondingly few people have to be moved. This reduction in the number of endangered patients enables the few employees to take care of them. It has the further advantage that the stairways and fire escapes in the endangered section are free and unobstructed, thus enabling the fire-fighting forces to reach the fire in the minimum of time and fight it with the maximum of efficiency.

There are three essential features in this safety method, viz.: the fire wall, the fire signal system and the casters. All three must be present to insure successful operation.

This treatment of non-fireproof buildings renders them substantially as safe for their occupants as if they were fireproof. It is, therefore,

recognized by the fire insurance companies as sufficiently advantageous to reduce considerably the fire insurance rate, so that the expense of the changes should be covered in a short period of time.

The usefulness and serviceability of the old-type, non-fireproof institutional buildings being, therefore, indefinitely prolonged by this treatment, a result is attained which could not otherwise be realized short of their entire reconstruction at enormous expense.

A very good idea of the manner in which all the buildings were made safe can be obtained by a description of the treatment of a few that are typical.

That of the main building of the City Hospital group will be an excellent illustration. The building is located at the south end of Blackwell's Island. It is five stories in height, with a basement. It has stone walls, wood interior, and a wood roof covered with slate. Its capacity is 1,000 beds, and its normal occupancy when filled with patients is from 1,400 to 1,500 persons, there being 400 to 500 nurses, attendants, surgeons, visitors, help, etc. A large number of the patients are bedridden and helpless. One fire-engine company is located near the middle of the island, which is two miles long and requires five minutes to reach the building. Other fire-department apparatus and men from Manhattan would have to be transported by boat and under the most favorable circumstances could not reach the



Fig. 2. Typical buildings to which fire walls have been added—dormitories for aged male inmates, Farm Colony, Staten Island, New York. In the building on the left a new fire wall, shown projecting above the roof, has been built. In the building on the right an existing wall has been made into a fire wall.

building in less than forty minutes. A fire in any part of the building would endanger the whole structure and annex and would jeopardize the lives of all the occupants.

The accompanying floor plan (Fig. 1) indicates that the building consisted originally of a central structure (24), two wings (23 and 29) were added later, and after that an addition to each wing (21, 22, and 31, 32) with finally an annex (18, 19), connected with the eastern addition by a bridge at the second-floor level. The heavy dividing lines indicate existing masonry walls occupying strategic positions that were converted into fire walls, thus dividing the main building into seven vertical sections or fire units

(as they are designated) and the annex into two additional units. Between units 21 and 22, and 31 and 32 are fireproof stair halls and stairways inclosed by brick walls.

All the walls converted into fire walls were extended through the attics and roof and to an average height of  $3\frac{1}{2}$  feet above the roof and were stonecoped. The woodwork on opposite sides of these walls was thoroughly isolated. All openings in these walls, except specified doorways



Fig. 3. Fire doors and horizontal exit, dormitories for aged male inmates, Farm Colony.

used as horizontal exits and designated as A and B doorways, were bricked in solidly the full thickness of the walls. Where there was any probability of fire spreading around the ends of these walls, one or two vertical lines of windows were fireproofed by substituting metal trim and sash and wire glass for the existing windows. All wood cornices and projecting wood roofs within 5 feet on each side of the line of the wall were

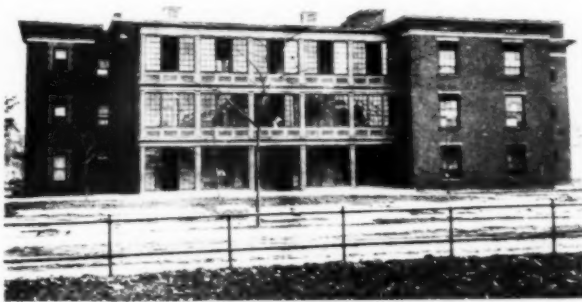


Fig. 4. Hospital for Feeble-Minded Children, Randall's Island, in which existing walls have been utilized as fire walls.

replaced by hollow metalwork, fire-stopped along the line of the fire walls and duplicating in design and color the woodwork replaced.

All the present woodwork in the door openings in the fire walls was removed, including all trim, flooring, etc. The head and jambs were finished in hard plaster, and a concrete cement-finished sill was built up from the wall by corbeling out the wall on each side of the opening, so as to extend under the fire doors in the closed position

in all cases. Standard sliding fire doors protect all openings in the cellars and attics, and standard hinged fire doors, finished in harmony with the trim of the wards into which they open, protect the openings in the other stories.

In all cases at least two exits of sufficient capacity to move beds through them and as remote from each other as practicable are provided on each floor in each fire unit. Helpless patients are placed on beds near these exits, and the beds are fitted with special non-abrading, ball-bearing, non-swiveling casters with 3-inch diameter wheels for the head legs only. This arrangement preserves the stability of the beds the same as usual and permits the easy removal of the patient in his bed by a nurse or attendant lifting the bed by its foot and wheeling it away.

The fire-signal system in this building is designed to adapt it to the improved conditions. The signals operate only in the one fire unit in which the fire occurs and in no other. Every signal is nevertheless transmitted automatically to the central office and the shops, dormitories and other service buildings, apprising them of the fire and its location and thus summoning assistance without delay.

Numerous details required attention so as to perfect the safety scheme. In many cases water, steam and sewer pipes passed through openings in basements, cellars and attics that required fire-door protection. When the pipes were at the top of the openings, permanent brick transoms 8 inches thick and supported on channels were built in the upper part of the openings and the rest protected by fire doors. Similarly, sills were raised when pipes occurred at the bottom of the openings.

Occasionally, wood floor and roof beams were continuous through or over walls that were to be utilized as fire walls. Such timbers were cut at the wall and the ends separated by not less than 6 inches of cement mortar rammed so as to isolate thoroughly the woodwork on each side. When sufficient bearing did not remain, steel stirrups had to be supplied.

All wood beams supported by fire walls were required to be beveled so as to be self-releasing in case of fire on either side of the wall. Dormer windows within 10 feet of a fire wall and within 2 feet of the face of the exterior walls were protected by sheet-metal covering and fireproof window frames, sash and wire glass.

In the Infants' Hospital Building on Randall's Island, a brick structure three stories high, with a basement, with wood interior and wood roof covered with slate in the mansard portions and



with tar and felt in the flat portions, certain existing walls were utilized as fire walls. These were found to be more desirable for the purpose than walls coinciding with the projections above the roof. An interesting problem was presented by a long wooden piazza with wood roof extending along the entire north side of the building east of the west wing. The piazza extended

around the ends of all fire walls. The best solution was found to lie in fireproofing 20-foot sections of the piazza adjacent to the ends of the fire walls. In the case of the dormitories for aged males and females in the City Home group, Blackwell's Island, where similar three-story wooden balconies skirted the fire walls, the latter were extended through the balconies.

### **PUBLICITY AS A MEANS OF EDUCATION AND SUPPORT\***

#### **Hospitals Dependent on the Public for Support Must Take the Public Into Their Confidence—Good Publicity Demands Standardization of Statistics and Financing**

BY FREDERICK D. GREENE, GENERAL SECRETARY OF THE UNITED HOSPITAL FUND OF NEW YORK

THIS morning in the classic and pious town of Oberlin I took breakfast with two delightful old ladies. While I was trying to think of some topic of refined conversation, one of the ladies told this story. A certain aristocratic family in New York had a scapegrace son who disappeared. It was reported that his body had been found and taken to the morgue. The father, accompanied by an undertaker, went to identify the remains, which were not in the best of condition. The father, however, concluded that it was the body of his son, and said that, although the boy had been no credit to the family, he should have a first-class funeral, and gave orders to the undertaker. Just then the jaw of the corpse fell back and disclosed a set of teeth which showed that a mistake had been made. The father withdrew. The undertaker, after another look at the corpse, remarked, "You poor fool! You might have had a swell funeral if you'd kept your mouth shut."

Perhaps the reason why some hospitals seek no publicity is that they have sense enough to "keep their mouths shut." But such hospitals are not represented here it is safe to say.

In charitable matters, "Let not your right hand know what your left hand doeth" is good advice for the individual; but, for a public institution, a better motto would be, Do all the good you can, to all the people you can, and let as many as possible know it." Letting as many as possible know it is publicity.

How far some hospitals are from appreciating the importance of publicity may be illustrated by a few snap shots from my mental kodak.

"What do you do with reporters?" I asked the superintendent of a large hospital.

"I wouldn't let a reporter into the building. I had to drive one away twice last week," he replied.

His manner reminded me of a down-East farmer who declared that no tramp should sleep in his barn. And yet this hospital is doing an excellent work for the poor and is quite dependent on voluntary gifts, amounting to over \$100,000 yearly. The foundation of its charitable income is quite insecure, resting like an inverted pyramid on very few contributors. If the leading benefactor should die without providing an endowment of at least two and a half million dollars, over three thousand free patients would have to be turned away yearly until a new body of contributors was developed.

Desiring to secure well-merited recognition for a crippled children's hospital, I offered to publish some pictures showing the excellent results attained. The progressive young superintendent with regret informed me that the leading surgeon was opposed to such publicity as being sensational and unprofessional.

A dentist who for years has given valuable time in a free clinic for school children was almost driven to sever his connection because he had offended rivals by allowing himself to be photographed at work, to illustrate a newspaper article intended to popularize this charity.

Not long ago I learned of a well-known but antiquated hospital, of which half the beds were empty. A visitor seeking information was rebuffed on the ground that the public was giving almost nothing and was not entitled to investigate it. Within a month a certain old maid, whom it would be harder for a financial agent to discover than a needle in a haystack, confided to me that she had lately cut out from her will a \$30,000 bequest to that hospital, and given it to another which she knew more about. There was no connection between the particular visitor who had been rebuffed and the old maid, but there was a connection between the gen-

\*Read before the American Hospital Association at its nineteenth annual session, Cleveland, O., September 12, 1917.

eral atmosphere of that hospital and the loss of \$30,000.

These cases are not cited as typical, but rather as "horrible examples" that are passing away. The value of publicity is now generally appreciated, certainly by this audience. What we are here for is to exchange practical suggestions as to how we may secure it.

Let us remind ourselves at the outset that the subject reads, "Publicity as a Means of Education and Support." This is a recognition that the two objects, education and support, while related, are worthy ends in themselves. That is to say, the popularizing of its knowledge and experience in the cause and cure of disease is a legitimate function of a hospital as well as a means of securing support. Indeed, a fully endowed hospital with no need for money, if you can imagine such a thing, might well devote some of its energy to teaching people how to avoid becoming hospital patients. Are not hospitals as a whole somewhat behind the times in this matter? We have had for years university extension, library extension, agricultural extension, public school extension, church extension. Why not hospital extension? Boards of health are recognizing that they have a teaching function and are exercising it through the press and by bulletins, advertisements, lectures, etc.

Some hospitals have already made a good beginning in this line. Training schools for nurses have long been an integral part of their work. The opening of hospital wards for the clinical instruction of medical students has proved advantageous to both hospital and college. Mothers convalescing after childbirth are taught how to feed, bathe, dress, and rest the baby, and how to care for themselves. Instruction given to tuberculous patients may well be extended to other classes. The out-patient department offers an unlimited and very profitable field. Visiting nurses and social service workers are also essentially teachers if they realize their full opportunities.

Due emphasis in the publicity campaign should be given to all these educational activities. There is no doubt that they would attract the favorable consideration of discriminating givers. Witness the large amounts that are being continually poured out for education in other lines. "What is its educational value?" is one of the first questions of the Rockefeller Foundation regarding any object.

Coming now to the practical problem, "How can publicity for a hospital best be secured?" I would suggest:

1. Adopting the policy of publicity. The presi-

dent and the chairman of the executive committee, especially, should be alive to the importance of making effective provision for interpreting to the public the activities and wants of the hospital. Money well used for this purpose is well spent. All hospitals maintained by taxation or by voluntary gifts are public institutions. They are under moral and should be under legal obligation to give a full account of their stewardship. It is often necessary to educate a board of trustees. The best way may be quietly to do some good publicity which they will see should be extended. In the case of municipal, county, or state institutions, it is not well to rush into print regarding abuses or bad equipment until the matter has been clearly put before the responsible authorities. But if they refuse to make proper provision there should be no hesitation in giving full publicity to bad conditions. No man is fit to be a public official who is disloyal to the public—the major partner.

2. Some definite person should be in charge of the publicity. This person may be one of the officers or the superintendent or an outside expert, either voluntary or paid. Good publicity involves so much journalistic instinct and experience and such technical knowledge that it cannot be secured without the advice of one possessing these qualifications. Moreover, the thought and time required are more than can be expected from the average superintendent burdened with numerous harassing details. And, again, those who are engaged in the actual work of the hospital are too close to it to see it in its proper perspective. Under a constant routine they grow blind to the features that have news value—that are unfamiliar to outsiders, picturesque, humorous, pathetic, and romantic. There is, therefore, a psychological as well as a technical need for someone who can approach the subject with freshness of spirit and lightness of touch. In every community there are newspaper men, advertisers, and artists who will be glad to "do their bit" along this line if the matter is properly put up to them as a social service.

3. Do not expect bricks without straw. Newspaper men as a class are public-spirited and sympathetic and can be trusted, but they are not omniscient. A hospital superintendent cannot spend his time better than in enlightening a reporter so that he, in turn, may educate the public. "A nose for news" is one of the chief assets of a good publicity man.

Utilize his instinct and cultivate a "nose for news" yourself. Even trifling incidents, if unusual, will serve as a peg on which to hang many a "story" for the papers. Life is so much of a repetition that any bit of color is welcomed. But



unless these incidents are watched for and preserved they are lost. The admitting officer, the house staff, the nurses, the social service visitors, the dispensary workers, the treasurer—all, should be encouraged to notice and report anything of possible news value. Whoever is in charge of the publicity can use the incidents not only for the press, but also in circulars, in the annual report, and in letters of appeal.

Hospital statistics we must have. But at best they are the bones of the subject, necessary for strength, but unattractive. Clothe them with flesh and blood and make them pulsate with heart-throbs.

4. Form and time have much to do with newspaper availability. Half a dozen paragraphs on different days are more likely to get in and will do more good than a three-column article. As Saturday and Sunday produce little news, Monday papers will often carry matter that would be crowded out on other days. Remember that good copy is likely to fail of insertion if received too late. The effort to smuggle appeals in with news is not wise and may throw out the whole. Items of real value carry their own appeal. It is always safe to leave out the "moral of the story." Don't depend on pull with the editor, or try to go over his head. Make your stuff worth while or you will wear out your welcome.

5. Cultivate good will. It is too much to expect that the general public will retain many statistics about your hospital. People read so much and so carelessly that their minds become like sieves, often with big holes in them. But, though they do not retain many facts, they do retain impressions, and it is their impressions upon which they act. See to it, therefore, that, with the facts to justify it, you establish a reputation for doing a large work, vital to the community and permeated with genuine sympathy. There is a widespread impression that a hospital is a cold, cheerless, impersonal place, wrapped in officialism and tied up with red tape. As a matter of fact, a hospital is a place where people come in pain and find relief, come in weakness and go forth strong, come despondent and return with courage. There are few families that do not have grateful memories of what a hospital has done for one or more of their circle. Capitalize this feeling.

Publicity is turning facts into news. The hospital must furnish the facts. It should be able to give straight answers to all fair questions regarding its work, income, and expenses. Its statistics should be significant, accurate, up to date, and uniform with the practice of the best hospitals. Uniformity presupposes standards, the establishment of which is one of the most useful services

that the American Hospital Association can render. The efforts now being made in this direction are very encouraging. Much has been accomplished in New York as a result of a conference held ten years ago, which recommended a system of uniform hospital accounting. A full printed description of this system can be obtained by sending to the superintendent of the Presbyterian Hospital, New York City. The United Hospital Fund of New York has accelerated the adoption of this system by requiring that it be followed in the reports made to the Fund by all hospitals which receive its appropriations. A modified form of this report blank has been adopted by the Cleveland Hospital Council. These reports must show, among other items, the number of free patients, public charges, part-paying patients and full-paying patients, together with the number of days of treatment given to each class. They also show the cost of the hospital work proper, of the out-patient department, and the corporation expenses. Without the careful segregation of such items, hospital statistics are useless for comparison, and per capita costs mean nothing.

When the daily per capita cost for ward patients in distinction from private patients was first required, some hospitals asserted that there was no difference, or that if there was it could not be ascertained. They were gently but firmly informed that the appropriations of the United Hospital Fund were based upon the number of free days of treatment given by each hospital, and that these days could not be calculated without knowing the per capita cost of ward patients. All our forty-six hospitals are now furnishing these significant figures, though some of them have had to improve their bookkeeping greatly and introduce proper auditing methods. This, however, has proved a distinct advantage in providing better control over expenses. More accurate data have furnished also a basis for making more convincing appeals, and a ground for securing higher compensation for city cases and for patients coming under the employers' liability law.

Both good publicity and good business demand up-to-date methods in hospital statistics and finances. These matters should receive the personal attention of superintendents and treasurers, guided by whatever expert advice they may need. Too often they are left to inexperienced clerks whose work contains glaring errors, damaging to the institution. Even where there is a good system of bookkeeping, the treasurer's statement in the annual report is sometimes so vague and unintelligible as to suggest the intent to conceal rather than to give information. I knew of a

business man who was about to withhold a gift from a hospital whose statement of expenses contained the following large general amounts, which should have been analyzed and distributed under intelligible items:

General expense.....	\$ 26,772.44
General supplies.....	91,129.98
Hospital expense.....	12,424.15
Hospital Association.....	3,409.65

This made a total of (generalities).....\$133,736.22

I took pains to convince the gentleman that the hospital, nevertheless, was worthy, and also to convince the treasurer that a policy of obscurity does not pay.

The United Hospital Fund of New York tabulates the uniform statistics of the work, income, and expenses of its forty-six hospitals and publishes them on one large sheet. This shows at a glance the condition of each hospital and its relation to the others, and gives a bird's-eye view of the whole field.

#### CHARITABLE ADVERTISING

With your permission, I will use my first experience in charitable advertising to illustrate some of the factors of success in this form of publicity. Over ten years ago we were trying to establish a new hospital at Sea Breeze, Coney Island, for children suffering from tuberculosis of the bones and glands. Mr. Rockefeller had agreed to give \$125,000 if the Association for Improving the Condition of the Poor would raise a like sum by June 30, 1906. Only a few days remained, and we were still \$50,000 short. One morning, on a half-hour railroad trip into New York, an advertisement came into my mind and was jotted down on the back of an envelope in almost its final form. It was set up the size of a magazine page and made into a plate that could be easily duplicated. I then took this plate to the publishers of about forty leading periodicals and they readily consented to insert it free as their contribution to the cause of crippled children. Some of you may recall this advertisement, which was entitled "A Cheerful View of a Serious Situation."

The success of this advertisement was due perhaps to the following points:

1. Half the page was taken up by a picture of "Smiling Joe," a four-year-old cherub suffering with Pott's disease of the spine, strapped upon a Bradford frame, where he had lain for a year. This was an eye-catcher which stopped the reader, no matter how fast he turned the pages.

2. The problem was focused in a concrete individual case understood at once by all.

3. The text was brief and clear, covering three points: Joe had been strapped to the board for a

year, but he was getting well and smiling. There were 5,000 like him in New York tenements, but a movement had been started to save them. The sum of \$250,000 must be raised by June 30 to insure Sea Breeze Hospital, but only \$50,000 was lacking.

4. The advertisement was pleasing in spite of its pathos. A picture of little, emaciated Max would have shown the terrible disease more vividly. But no magazine would have wanted it. As it was, people actually cut out "Smiling Joe" and kept him on their desks to drive away the blues.

The "Smiling Joe" advertisement appeared in magazines with a total circulation of five million copies. It stimulated interest and brought inquiries from all over the United States from individuals, municipalities, and state boards. Several newspapers gave a whole page to the subject. A request came from the St. Louis fair that Joe be sent on as an exhibit, which, of course, we turned down.

The value of this bit of publicity was very great for education, but disappointing for support. The direct cash returns were not over \$5,000, which was less than the advertising space would have cost had it not been free. Probably many who did not send cash to New York were moved to help crippled children in their own cities, and that was one of our objects.

You will be interested to know that on the morning of June 30 we were still \$35,000 short. The *Tribune* printed a two-inch editorial which I had handed in the night before. This was read by a retired business man unknown to us. He volunteered to make up whatever deficit there might be at the end of the day. This amounted to \$23,000, for which he promptly sent his check. The acquaintance thus formed led him before long to give half a million dollars to the same trustees for a home to treat and instruct poor mothers convalescing after childbirth.

There is no doubt that paid advertisements in newspapers are worth while as part of a campaign of education for large organizations with an important social program. This form of publicity has been rapidly increasing. It has been resorted to by railroads and other corporations which desire to affect public opinion. The war relief committees and the Red Cross have found it useful also in raising funds. Where the cause is a great one and the need urgent, and with a strong claim upon popular support, paid advertising is no doubt wise.

It has been pretty well established that for average hospitals paid advertising does not pay in direct returns under ordinary circumstances. It may be worth while, during a short intensive cam-



paign for a new building or an endowment. But even then the local press would probably donate the space. People look for the news. Advertisements may be thrust in their faces, but they instinctively avoid them as a pedestrian walks around a puddle in a road.

The limits of this paper do not permit a discussion of other forms of publicity, some of which will be treated in separate papers. Every hospital should issue an annual report and make it, as far as possible, a human document edited from the standpoint of the average reader. Much that now appears in hospital reports is of no use to anybody and is not even looked at by one out of a hundred. I refer to such features as the constitution and by-laws, the long pages of medical and surgical statistics, lists of former presidents, trustees, doctors, interns, nurses. One New York hospital uses fifty-two pages in listing nurses and officers. The constitution and by-laws should be printed separately for the use of the small number who are interested. The medical and surgical statistics may be tabulated and kept on file in the hospital and printed as a separate document if sufficiently called for. Medical statistics should be published in condensed and intelligible form and the same is true of the treasurer's statement. The latter should be accompanied by a certificate of audit. A liberal use of pictures will greatly improve the annual report, and these pictures should be changed from year to year.

Letters of appeal are one of the most effective mediums of publicity. They should have the same qualities required for good press work, namely, human interest, simplicity, and directness. Illustrated folders telling the work and needs of the hospital in a nutshell are good both as enclosures in letters and for distribution at public gatherings. Lectures and illustrated posters have been found useful in promoting social work, and might be used also by hospitals.

#### PERSONAL WORK

Perhaps the most effective form of publicity is that which is done by volunteer men and women who inform themselves as to the work and needs of the hospital and make personal appeals in its behalf. The mere fact that they themselves contribute and are willing to work for the hospital goes a long way in securing aid from others. Such efforts are most effective when carried on by a corps of workers under the stimulus of some active leader who may be a busy man of affairs or a woman of social leadership. Additional zest is given to the work if there are rival groups. Separate work may also be carried on among the young people; for instance, girls from 16 to 21 and chil-

dren from 12 to 16 years of age. Such groups may be interested in working for a specific object, such as maintaining or endowing a bed. There is nothing like personal service to deepen interest and make it permanent.

We must educate the public to a clear understanding of the relation of hospitals to public welfare. They are as necessary as the fire department or the police. They arrest germs that are more dangerous than burglars, and check epidemics that would be as disastrous as a conflagration. They are human repair shops, without which our cities would be choked with human scrap heaps, and the whole social fabric would deteriorate.

It is a mistake to put hospital propaganda too much on a "please" and "thank you" basis. Why not seek to make the giver feel that it is his affair as much as yours? Do not approach him as a suppliant. Put yourself on his level and assume that he is as kind-hearted and as ready to do his part as a good citizen as you are. This will preserve your self-respect and win his.

To a very great degree disease is not the fault of the individual, is not within his power to control, and is not limited to him in its evil results. In other words, the community—the whole of us—is largely to blame for disease. We all suffer from it or for it, and everyone of us must help to fight it.

The health of a community is its chief asset, and to protect it is a primary duty. Should we not work for the time when facilities for guarding against ill health will be provided by the community as widely and as freely as it now provides against illiteracy?

Like Alpine climbers, we are feeling our way upward over new and difficult places. We should, therefore, pass a rope of safety around every member of society, so that each may receive and contribute to the strength of all. Let us recognize even class consciousness, not as an evil, but as a step toward race consciousness; that is to say, human brotherhood. When we get to the point of not only professing belief in equality of opportunity for everyone, but of really desiring and working for it, then strife within and without our borders will cease and wars shall be no more.

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One of the greatest observers of human things (not physiological) says, in another language, "Where there is sun there is thought." All physiology goes to confirm this. Where is the shady side of deep valleys there is cretinism. Where are cellars and the unsunned sides of narrow streets there is the degeneracy and weakness of the human race—mind and body equally degenerating. Put the pale, withering plant and human being into the sun, and, if not too far gone, each will recover health and spirit.—Florence Nightingale, "Notes on Nursing."

## STANDARDIZATION OF HOSPITALS—CLASS V, SMALL SEMIPUBLIC COMMUNITY HOSPITALS

### Improperly Planned Small Hospitals Become Community White Elephants—The Training School Problem—Honesty a Prime Requisite in Laboratory Service—Value of Out-patient and Social Service Department to Small Communities

BY JOHN A. HORNSBY, M. D., CHICAGO, IN COLLABORATION WITH MISS MARY WHEELER, PRINCIPAL OF THE ILLINOIS TRAINING SCHOOL, CHICAGO; DR. SOLOMON STROUSE, FORMER PATHOLOGIST IN AND NOW MEMBER OF THE MEDICAL STAFF, MICHAEL REESE HOSPITAL, CHICAGO; MISS RENA S. ECKMAN, FORMER DIETITIAN, MASSACHUSETTS GENERAL HOSPITAL, NOW OF TEACHERS COLLEGE, COLUMBIA UNIVERSITY, NEW YORK; DR. J. T. CASE, ROENTGENOLOGIST, BATTLE CREEK, MICH.; DR. EDWARD S. BLAINE, ROENTGENOLOGIST, COOK COUNTY HOSPITAL, CHICAGO; MR. E. C. LARSON, FORMER ACCOUNTANT, NOW ASSISTANT SUPERINTENDENT, MICHAEL REESE HOSPITAL, CHICAGO; MR. MICHAEL M. DAVIS, JR., DIRECTOR, BOSTON DISPENSARY, BOSTON, MASS.

THE small semipublic community hospital, of the capacity ranging from five to fifty beds, scheduled as Class V in our scheme of classification, is before us this month for discussion.

This is one of the most important classes of hospitals that we have to consider. Almost every community of 2,000 people or more, and even towns of a thousand people where there is a considerable rural or semirural population dependent on the town, can and should have a hospital of some sort, and this group is all the more important because, in a vast majority of the communities where only a hospital of this small size can be thought of, there is no trained or experienced person in the community who could lend material aid in the organization, financing, designing, and building of the administrative forces available. As a rule, the doctors in such a community have not had hospital experience either in medical service or in any administrative directions. Usually it is the first hospital experience of men and women who may be chosen trustees of such a hospital. Consequently, the problem, while simple in itself to the trained hospital mind, is a most complex one for those who are obliged to undertake its mastery.

We cannot demand of such a hospital anything like the elaborateness of architecture, of equipment, or of work that we demand of most other institutions, because, as we have said, the whole problem must be met by untrained people, and all the community has before it in the shape of a problem is a demand for institutional care of its sick.

So great is the ignorance of such a community in regard to a new hospital that they don't even value and are unable to appreciate help from the outside from some trained hospital man or medical men, or graduate nurse who has had executive experience.

As a rule this community undertakes to "swing" its new hospital proposition by getting in touch with a builder or contractor who may have influ-

ence and who lives in the community, and they send him about the country to see some hospitals approximately of the size and character that they are thinking about; this man, totally inexperienced in hospital architecture and designing, and completely unable to coordinate what he may see abroad with what his own people need, comes back home with a trunkful of blue prints and proceeds to design something that he has seen elsewhere, and it is the easiest thing in the world for him to persuade the new board of trustees and those interested in the hospital that what he is doing is "the last word" in modern hospital construction.

The result is that many small hospitals that have been built of recent years and that will be built in the next few years are monstrosities of architecture, incapable of economical administration, and because of these defects "white elephants" saddled on the community. Then, too, such a contractor or builder is perforce unable to make a proper survey of the community to determine the needs of the community in regard to the size and the apportionment of space for the various hospital services; consequently, he gives to the community a one-sided institution, built so rigidly, from its inception, that future needs cannot be provided in any economical way. He builds, for instance, a hospital of twenty-five beds, let us say, with administrative areas that may barely accommodate this small unit of patients without any provision whatever for administrative space to take care of future expansion. The result is that when a second unit is required to take care of additional patients the administrative spaces already built are wholly inadequate for the administration of the additional beds; the net result of this miscalculation is either the necessity to tear out and provide more administrative space or just to go ahead and build more beds without reference to the necessities of administration. This means that patients throughout the hospital, after the addition is built,



will not receive proper attention and proper nursing.

It will not take the community very long to find out, usually through the experiences of members of the medical profession, that its sick are not receiving that scientific care that was promised before the hospital was built, and that other hospitals in their communities are following. The chain goes along; the hospital becomes unpopular, and interpreted, this means that support will be withheld; the hospital will be on financial rocks almost immediately, and with financial limitations service will have to be cut down, and so is built up a long chain of inefficiency and inadequacy that will limit the usefulness of the institution very greatly.

This is neither the time nor the place to discuss the architecture or the details of equipment of these small hospitals; that has been done elsewhere and many times. The theme that lies just before us is the discussion of what the sick have a right to expect in the way of scientific care and comfort in these small hospitals. Those interested may look back over our schedule of preceding months for the various markings of the hospitals that we have already discussed and the same classification and schedule can be used for these small hospitals.

Let us now touch the high lights in the departments of these small hospitals, one by one, and try to fix some standards:

#### THE MEDICAL STAFF, INCLUDING INTERN STAFF AND NURSING STAFF

*The Visiting Staff.*—We have no compromise to offer in regard to a visiting medical staff for these small hospitals. We believe that a responsible medical staff is absolutely necessary if we are to have a definite technic for the care of patients in any hospital, whether it be large or small, general or special. But in such a community hospital the function of the visiting staff may not be quite so elaborate as the similar work in a more pretentious institution; but there ought really to be a medical staff, and the staff should be divided according to the various services and each of these services should have a responsible head or chief, even though such service be very small—even negligible—because if we do not encourage the creation of all the services and encourage the medical men in the community to measure up to the necessities of these various services, we are going to have an indifference and a one-sidedness in the viewpoint of the staff from the very inception of the institution.

To illustrate: if we do not have in the hospital an eye department presided over by the best man

that can be found in the community who is specializing on the eye, it is quite certain that eye diseases in the hospital will be tinkered with by almost every man on the staff; the nose, throat, and ear man will do some eye work, and even the general surgeon, usually quite innocent of any special knowledge of diseases and the surgery of the eye, will undertake work in that field. If there is a surgical service and not a gynecological service it is certain that the general surgeon will undertake to do gynecology, and we have all come to understand that gynecology is a very special branch of surgery, in a very specialized anatomical field; we are moving so rapidly toward definite standards in gynecological surgery that the general surgeon is not equipped to do deep pelvic work. So we might go on indefinitely through the departments and find that, for the lack of a definite service, all the members of the staff are ranging over the whole field of medicine, in their practice, not only to the detriment of good work, but toward the creation of a chaotic condition in the profession in the community, because never was the adage, "jack of all trades, and master of none," so aptly illustrated as in just this situation.

On the other hand, if all the services are represented in the hospital, the staff members will come to recognize these divisions of medicine; they will acquire the habit of referring cases to the specialists in the several departments, and in the end members of the staff will have an opportunity, and, indeed, will be compelled to concentrate within the narrow limits of a specialty, and very much better work will be done throughout the institution and throughout the community.

There ought to be a chief to each one of the services, medicine, surgery, obstetrics, and children, major branches, and of the specialties, the eye, ear, nose and throat, orthopedics, neurology, genito-urinary, and the infectious diseases. If the hospital intends to accept tuberculosis there must be a chief of that service also. If the profession in the community will permit, each service ought to have, in addition to the chief, at least one associate, and it will be better if there are two, even though the work be extremely little, because the very fact of a man's being designated for a special service will stimulate him to study and perfect himself in that service, and in proportion as all the men on the staff acquire skill and experience, just in proportion will their work be successful and the hospital prosper, and just in that proportion also will the hospital become a center for an ever-increasing clientele out through the community and into other communities. We know at least one of these small hospitals that attracts patients from two or three hundred miles around,

and, although it is located in a small town that ought to be well supplied by a hospital of fifty beds, this hospital has now gone on growing during the past six or eight years until it has two hundred beds and attracts patients from far beyond its natural clientele. This result is due to a carefully organized and strictly administered medical staff and to team-work, composite study of cases, group diagnosis and scientific care. Any community can do the same. A small hospital whose staff is organized in this way ought to be given a high mark in any attempt to standardize this hospital.

*The Interns.*—There ought to be one intern for even the smallest hospital, and one intern will probably serve all the needs in a hospital of twenty-five beds or under. If there are more than twenty-five beds there ought to be an additional intern, because we have rather come to feel that one intern cannot take care properly of more than twenty or twenty-five patients. We are not now going to discuss the difficulties of obtaining proper interns in these small hospitals, excepting to say that the reason why interns are hard to get is that the facilities for acquiring training and experience in such an institution are usually very limited. But in proportion as the staff is well organized and the men are kept on their tiptoes to serve the hospital and their patients, just in that proportion will also be the attractiveness of the hospital as a place where interns may get proper training, and if the hospital staff and if the hospital itself is what it should be, irrespective of any limitations in architecture or equipment, there ought not to be great difficulty in obtaining interns.

The intern in a hospital is just precisely what the visiting staff makes of him, and the results of his internship will be an expression of the ability of the staff in the hospital to teach. It does not require much time for medical schools and prominent members of the profession to learn just what any given hospital is doing for its interns, and hence the ease with which a hospital can get interns under proper conditions is altogether up to the hospital itself.

Interns ought to have some definite rules to live under; rules that are administrative in character rather than professional, and, if each medical service lives and works under rules, these rules apply also to the interns, and, interpreted, they will mean efficiency and a technic that has been thought out and is carefully administered.

*The Nursing Service.*—The nursing problem in these small hospitals is extremely complex. There is a disposition on the part of some of the states to refuse permission for hospitals to maintain

training schools until they have a certain number of beds. For instance, in Kansas a hospital cannot maintain a training school unless it has an average of twenty-five beds occupied. It seems to us this is rather the wrong way to go about the matter, and that very much more depends on the quality of the training that a pupil nurse can get than upon the number of beds in the hospital. If the hospital has high ideals and the medical staff is an active and aggressive one, then the nurse training ought to be good and the limitations in the number of patients ought at least to be compensated for by the better individual training the pupil nurses can have at the hands of the doctors, under their own superiors; that is, the head of the training school and her assistant or assistants.

There is no good reason for the lowering of standards for applicants for the training schools in these small hospitals; indeed, a small community hospital under the inspiration and stimulus of the medical men working in it ought to command a high grade of material for pupil nurses. Much depends on the morals and the morale in the hospital; if these are good, then the community soon learns that fact and the daughters of well-to-do people, young women of breeding and education and refinement, will prefer to go into training in a hospital in their own community, if it is a fit place for them to live, rather than to go away from home among strangers.

Of course, everything depends on the head of the training school. In these small hospitals usually the head of the training school is also the superintendent of the hospital, and she ought to have at least one assistant, even in a very small hospital, because the superintendent has to do the buying, has to attend to the wants of the medical staff, generally has to act as housekeeper, and she will be in luck if she doesn't have to keep the books also and admit patients. So, that in any event she will need an assistant, who would better be called assistant superintendent of the hospital than principal of the training school, because as assistant superintendent of the whole institution the scope of her activities with the training school will be a little broader than they would be if she were narrowly confined to the training school itself. This, of course, is true only in a small hospital where family life and intimate association are at their highest. There must be a distinct place for the pupil nurses to live, and there must be school rules and home rules for their guidance because one of the principal features of the training of any young man or any young woman is in discipline, self-discipline, and self-control. While rules need not be made obnoxious there certainly ought to be definite rules, and they ought to be lived up to. It



seems to us that when a superintendent of one of these small hospitals is in doubt about a rule for her nurses or for the interns, there is one yardstick by which the wisdom of such a rule or policy can almost invariably be settled, and that is by the rule of good sense and by the every-day experiences of life.

Obviously, it will not be possible to conduct a training school unless practically all the services are represented, but there is every reason in the world why all the services should be represented in a community hospital, and not a single reason why any class of patients, suffering from any disease, should be declined. This is supposed to be a community institution and it is supposed to take care of the ills of the community, and every community at one time or another will have all the ills that flesh is heir to. The moment the hospital declines certain classes of patients, just that moment the hospital lays itself liable to be prohibited from conducting a training school and compelled to enter into some sort of affiliation with other institutions where the pupil nurses can get an all-round fundamental training in all branches of medicine.

We are purposely not taking up the question of the two-year versus the three-year course of training for pupils, because, whether the school is a large or a small one, the training ought to be complete, and we have pretty unanimously arrived at the conclusion that a two-year school does not give adequate training to pupil nurses, especially in view of almost continuous additions to the curriculum during the past few years.

Just one word more: in marking a training school for purposes of standardization, in these small community hospitals an institution that compels its pupil nurses to do the work of domestics ought to have a very low mark; it cannot be a high-grade school. There is certainly work enough of legitimate nursing character for pupil nurses, and their time can be put to better use than to compel them to do chambermaid and domestic service.

#### THE LABORATORIES

It is too bad that we cannot allow a higher percentage for laboratories than 10 percent, because the laboratories are so extremely important in the modern hospital.

Just as Nature has provided intricate physical and physiological organizations of many small animals, quite as complex as that of the elephant or the mastodon, so the organization of a small community hospital must provide for the scientific care of patients, and in the same way as that to be had in large metropolitan institutions. Of course, there is a limit to this simile, because it is

obviously out of the question for small hospitals in isolated communities to do the intricate and composite things in pathology that the large institution that has a high-salaried laboratory director in charge, with trained specialists at the head of each subordinate department.

The fundamental necessity in the laboratory branch of these small hospitals is just common honesty, a virtue too frequently lacking. Oftentimes it is not possible for these small hospitals to secure the services of a pathologist trained adequately in all the branches; frequently they must be satisfied with one of the younger practicing physicians in the community who has served a good internship and who has had good laboratory training in one of the large medical centers. Frequently these young men, while having a fair theoretical knowledge of the more intricate laboratory performances, do not have that working knowledge which will inspire confidence in the medical staff and which will give assurance of correct findings to patients.

Where it is utterly impossible to secure even part-time service of a laboratory director capable of doing all the work that we now understand hospitals should do, an excellent substitute is to be had in a frank admission of the inability of the institution to do certain thoroughly well-understood and frankly admitted things. For instance, it is absolutely criminal for a hospital to undertake to give operating surgeons differential diagnoses of neoplasms unless the work can be done accurately and scientifically. The best way for such an institution to do is frankly to admit its inability to furnish these accurate diagnoses so that surgeons may know how to act. Generally the operations for neoplasms can be postponed at least until the patient can be sent to some institution where differential diagnosis can be satisfactorily made.

There is no excuse for these small institutions not being able to identify the various organisms when the source and character of the infection is in doubt. A pathologist who cannot identify the commoner pathogenic organisms is not to be considered a pathologist, and the institution ought not to lean upon him.

Most antitoxins and serums are now furnished in stock and of good quality; any pathologist worthy of the name will be able to handle the administration of these adequately.

It goes without saying that complete blood examinations, complete urinalysis, and the examination of stomach and bowel contents should be made in these small hospitals. Spinal puncture, Wassermann tests, the Widal and the ability to administer the various local anesthetics for spe-

cial purposes are absolute necessities even in the smallest hospital.

Sometimes a laboratory director to do even these essential things is not available in the community itself; transportation is not expensive, however, and communities are within such easy reach of each other, as a rule, that it will frequently be possible for two or three institutions within fifty miles of each other to club in and employ a pathologist in common who can give a certain amount of time to each institution. Under such an arrangement it will not be long before a woman technician, who will be able to do the routine things under the direction of a trained laboratory specialist, can be broken in in each hospital. Frequently such a woman can be employed at other things in the hospital, such as the giving of anesthetics; often the assistant superintendent or even the superintendent herself will have enough ambition and fundamental training to enable her to grasp the essentials to the doing of the routine work.

But, as we said at the outset, the main thing in these hospitals is fundamental honesty, so that the members of the medical staff can be certain that any work attempted will be honestly done.

#### X-RAY DEPARTMENT

A good x-ray outfit in these small hospitals is a large element in the success of the department, and nearly every community has in its citizenship some man or woman who, if the need is properly presented, will donate to the institution an adequate x-ray outfit. For convenience we are giving a list of the essential things, with the approximate cost, in order that hospital administrators and trustees may present the need in itemized way to someone who might be persuaded to give the necessary funds.

##### X-RAY OUTFIT FOR HOSPITALS OF FROM FIVE TO FIFTY BEDS

1 transformer, 110 or 220 volts, 60-cycle A. C.	\$450.00
1 radiographic tube stand	80.00
1 gas tube, 7-inch tungsten target	35.00
1 hydrogen tube fine focus	75.00
1 11-by-14 intensifying screen	47.00
1 diagnostic box	30.00
1 tube hanger for two tubes	3.00
1 hand fluoroscope and lead apron	21.65
1 lead protection screen	39.00
1 x-ray plate chest	16.00
	<hr/> \$796.65

##### OVERHEAD CONTROL SYSTEM

1 set wall insulators, 4-arm	\$ 13.00
3 trolley cord reels	9.75
100 feet trolley cord wire	3.00
	<hr/> \$ 25.75

##### DARK-ROOM EQUIPMENT

3 8-by-10 developing trays	\$ 3.75
3 11-by-14 developing trays	7.50
1 ruby light	6.75
1 dark-room apron	1.00

1 16-ounce graduate	.50
1 drying rack	1.25
24 packages developer	6.00
25 pounds C. P. hypo	1.50
2 32-ounce glass-stoppered bottles	1.50
1 midget shadow box	7.50
	<hr/> \$ 37.25

##### COOLIDGE TUBE EQUIPMENT

1 Coolidge tube transformer	\$ 35.00
1 Coolidge tube regulator	35.00
1 insulated shelf	3.50
1 medium-focus Coolidge cathode terminal	1.25
1 trolley cord reel	3.25
	<hr/> \$ 78.00

Total equipment absolutely necessary for operation.....\$96.40

Total of complete equipment.....\$97.65

This includes equipment that greatly assists in operation of the outfit, but can be dispensed with at first and added later when desired.

#### DIETETIC DEPARTMENT

It is hardly to be expected that these small hospitals will be able to afford a trained dietitian, but the need for special feeding of certain classes of patients is so essential to treatment in this modern day that some arrangement absolutely must be made whereby the physicians can be assured proper special feeding of their special cases, at least in the diseases of metabolism. The old diet lists that many hospitals still stick to are now known to be practically worthless, and it is obvious that each patient requiring special feeding must be treated as an individual and not as one of a class. The initiative in this work must be in the hands of the medical men, and it is to be greatly regretted that the average medical man in the community in which one of these small hospitals is likely to be the health center does not adequately appreciate the dietetic needs of the sick, and, as a rule, has given absolutely no help to the person in the hospital charged with the business of feeding their patients.

It is the easiest thing in the world, if there is just one ambitious, energetic, and trained man on the staff, to inspire good dietetic work in the institution. The assistant superintendent or the superintendent herself will nearly always be found more than willing to study the laws of metabolism, the physiology of the digestion, and the chemistry of foods, and, if one medical man trained in these branches of the science will give her a little time and will study with her on special cases, it will not be six months before such a woman can be a tower of strength to the institution and able to meet all the demands of the profession. It is absolutely impossible for a cook to measure up to the necessities in this department because of her want of fundamental education.

It can be said without fear of successful contradiction that in any hospital, however small, that makes no pretense to feed the sick specially and in consonance with modern demands, the fault lies in



the medical staff and not with the hospital administration.

#### THE PHARMACY

Most states require that the pharmacy in the hospitals shall be in charge of a licensed pharmacist. This is certainly as it should be, because the pharmacist must be in charge, not only of the pharmacy itself, but also of the distribution of medicines to the various units, and he must also constantly busy himself with the adequate training of pupil nurses in the giving of medicines to patients. Where there is not a competent pharmacist, it is very certain that the hazards of overdosing and of giving wrong medicines are increased manifold.

It is out of the question for all these small hospitals to have in their employ all-time registered pharmacists, but certainly all of them can have part-time men secured from one of the drugstores in the community—some trained person who will spend a part of each day at the institution and who will pay sufficient attention to the details of the work to insure accuracy and carefulness.

The emergency medicines can be found by someone in the institution, preferably the superintendent herself, who will have been trained sufficiently to find the right emergency medicines and to see to their proper administration.

These small hospitals will be marked on the seriousness of their attempt to be sure of accuracy and of the standards of the medicines themselves.

It will not be economical for these small institutions to attempt to make up their fluid extracts and tinctures, and most medicines are now put up in stock form by the large drug houses in a way that will make them better for common use and in a way to keep longer than the institutions themselves could otherwise obtain.

#### DISPENSARY, OUT-PATIENT DEPARTMENT, AND SOCIAL SERVICE

If the modern hospital in general is to assume the role of health center in its community, then this role is doubly urgent upon the small community hospital. It must inspire and stimulate good health activities, must reach out into the community, and must lend a helping hand to those who are sick enough to require attention and yet not sick enough to be bed patients in the institution. So that, if there is a reason why hospitals in general should conduct dispensary and out-patient services, this reason is doubly insistent in these small hospitals. There should be a dispensary for out-patients and there should be a visiting nurse. It is inconceivable that, where the need for such service is made apparent to any one or more well-to-do people in the community, the funds should

not be forthcoming. And, if such a department is worth while, it is certainly worth while that the work should be done well. The time has gone by when it is sufficient that a dispensary be advertised to be open at such hours and that one of the interns or some inexperienced young physician should be placed in charge to look at a patient's tongue, feel the pulse, and prescribe one of three or four stock medicines kept in stock in bulk. That kind of a dispensary is worse than useless because it inspires in those who patronize it a confidence not warranted by the facts. It will always be possible, even in these small hospitals, to secure the attendance in the dispensary of the staff men on the various services, at least for an hour or so two or three times a week. In pursuance of this policy the work will not be heavy on any physician, and each will be able to give a proper amount of time and the necessary care to permit a correct diagnosis and a proper evaluation of the patient's trouble.

Many ills from which the poor of the community suffer are due to preventable causes—bad air, improper sleeping arrangements, improper foods, improper clothing—and all these can be remedied by a visiting nurse.

We all have in mind the classical case taken from the files of the Massachusetts General Hospital, in which nine members of a family were attacked, one after the other, and repeatedly infected by the common itch. These nine members of the family were repeated patients at the hospital for a year or more at an expense to the institution of more than \$250. Presently someone conceived the brilliant idea of looking into the cause of the trouble in this family, and a visiting nurse, a scrub woman, and ten cents' worth of soap broke up the infection and showed the people how to prevent its recurrence, and the whole affair was over. Similar service can be rendered in these small hospitals merely by careful inquiry and some initiative on the part of the dispensary or out-patient doctor and a good visiting nurse.

Every one of these small hospitals must make a serious attempt to conduct at least an inexpensive dispensary and out-patient service, and if they do not do so they are failing to measure up to the first essentials of a community health center.

#### MEDICAL RECORDS AND ACCOUNTING

As we have said in the discussion of larger institutions, there are no standards up to the present moment concerning the keeping of accounts and the medical records, but the results are quite as insistent in the small hospitals as in the large. There is no good reason why even the smallest hospital cannot keep good, serviceable accounts,

and there is less reason why it should not keep adequate medical records.

In the accounting it is necessary so to arrange the items of both expenditure and income that the superintendent can know at all times just what she is doing, which of her departments are making and which are losing money, and how much.

Just what shall be included in the per-capita cost of patients in these small hospitals is no better settled as a problem than in the larger institutions. It seems to us that the investment in the plant should not be included, nor the large expenditures for alterations or serious repairs, such as the laying of new floors or the installation of new sterilizers or apparatus. These items should come out of a building fund and should be treated separately, and in all annual reports the statement should be frankly made that they are treated separately, and at the same time the figures for such items should be plainly stated so that other institutions may make accurate comparison between their own costs and those of other hospitals of the same character. Every other item should be counted in the per-capita cost.

A vast majority of these small hospitals now in existence satisfy themselves, in the matter of medical records, with the plain vital statistics in each case; the name, address, social state, etc., of the patient. Rarely do we find an admitting diagnosis in any part of the record, and quite as frequently there is no subsequent diagnosis stated on the record. In most of these small hospitals the nursing chart is tolerably well kept. It is rare indeed to find even a urinalysis attached to the record, and almost never the slip showing any other laboratory work or finding. Operations are usually dismissed with a brief statement of "operation for appendicitis" or whatever the operation was—nothing about the results, nothing about what was found or what was done, or the result. Inquirers will often be told, when they express surprise at the paucity of the record, that the doctor keeps his own record. This is, of course, intolerable. The hospital itself must have a record of the admission of the patient, what was found upon admission, what was done for him, the revised diagnosis after careful examination, the treatment, and the result. There must be a history of the case with the etiology of the disease, and notes of the continuous progress of the case made by the physician treating the patient or by the intern representing him. In the case of surgical operations the record should state the disease for which the operation was performed, the method of procedure, the gross findings, the story of the anesthetic, and the progress of the disease subsequently. In a vast majority of cases in these

small hospitals the diagnosis is made on the operating table, and many surgeons decline to allow a diagnosis to be entered on the record until after the operation. This leads to carelessness; indeed, its purpose is to hide carelessness and incompetence. A hospital that permits it is paying a premium for inefficiency.

ARCHITECTURE, INCLUDING ALL PERMANENT INSTALLATION, SUCH AS PLUMBING, POWER PLANT, ELEVATORS, VENTILATION, VACUUM CLEANING, LAUNDRY AND GARBAGE DISPOSAL

Most of these small hospitals are architectural atrocities. They are usually designed and built by contractors and builders who have not the slightest knowledge of what is to be done in the building after it is completed, and the result of this sort of building is a tremendous increase in cost of administration.

Unfortunately, when one of these small hospitals is contemplated, the work is turned over to citizens of the community who have had little or no experience in any sort of building enterprises and no experience whatever in the needs of hospital administration. If a fellow-townsmen in the building and contracting business has friends on the board and can show a well-constructed two-story building to his credit, he is considered entirely competent to design and build a hospital. If these trustees only knew it, they would be ahead large sums of money, even in the cost of the building, if they would secure the services of someone trained to the work to advise with their contractor. This would insure the proper designing of the hospital so that it could be economically administered. Such a trained worker would be able also to select materials that would wear in the new hospital, so that large items of repairs would not have to be expended almost immediately upon the completion of the building.

In this country these small hospitals should almost invariably be so designed that subsequent additions could be made without interfering in any way with the homogeneity of the plan. Administrative space, for instance, should be planned to allow for subsequent expansion, and much of this administrative space could be used in the first instance for the occupancy of patients, to the end that, when the additions are made, some of these administrative spaces could be evacuated for patient purposes and turned over to administration. In a hospital of any considerable size about half of the total space of the building is used for administrative purposes. In the first unit of one of these small hospitals, two-thirds or three-fourths of the space can be designed for administration purposes and built according to the design, but



used as a part of the first unit for the occupancy of patients, so that only about one-third of the space of the first unit would be actually given over to administration and two-thirds to patients. This is the economical way of modern hospital planning.

Generally these small hospitals are located where city light, city water, and city sewerage are to be had, making it unnecessary to provide for these in the power plant, and the plant itself can occupy a small space in the basement and equipped solely for heat, with a small high-pressure boiler for sterilization, steam cooking, and the like. The units of such a plant can be selected so that if expansion is desired while the machinery is still usable the machines can be removed from the basement and installed in a separate building if desired.

The question of elevators must be settled in each individual case. It should be borne in mind that it is almost impossible, certainly inhuman, to undertake to get patients up and down even one long flight of stairs on a stretcher carried by people, and there should be one elevator for that purpose if for nothing else.

Ventilation in these small hospitals should be confined to the windows for patients, with transoms so that air currents may go through, and in the service rooms and utility rooms there should be air ducts to the roof with a fan installed at a common center on the roof so that odors can be pulled out instead of being allowed to escape into the halls and about the hospital. The installation of this simple arrangement is not expensive and a one-quarter horsepower motor on the roof will not be expensive to operate.

Vacuum cleaning is not absolutely necessary, and it will save money. It will keep the hospital cleaner, but will probably cost more to do the cleaning because mechanical cleaning has to be done anyway.

The laundry should have good machinery, with at least one metallic disinfecter capable of steam pressure up to at least 15 pounds. If it is at all possible, the laundry space ought to be large, and it certainly should be well ventilated. The equipment should be greater than for the maximum number of pieces that the hospital is to have at the outset, because laundry work always grows, and if the laundry is built merely to capacity in the first instance there will be congestion, which leads to poor work and unclean and untidy-looking linen and cotton goods. Nothing is so detrimental to nice appearance as poorly laundered materials.

The sewage should be trapped, and, it goes without saying, should be vented. It is even more essential that sewer piping should be absolutely

tighter than the water pipes should be. None but the best materials should be used in the sewer piping.

Garbage disposal is a very serious matter in hospitals. The problem is not yet settled. Local incinerators about the hospital are extremely expensive and unsatisfactory because they tempt nurses to destroy stuff that could be retrieved. Tight garbage cans in the service rooms and at various central points in the hospital are better, provided they are emptied at least three times a day and provided especially that there be some central place where their contents can be dumped out on the floor before incineration, in order to inspect and save the usable things that are thrown away.

#### EQUIPMENT—MEDICAL, SURGICAL, AND PHYSICAL

The surgical operating rooms, even in these small hospitals, will generally be adequate to the demands of the surgeon. The operating rooms are supposed to be show places in the hospital, and they certainly are not intended to be less in the average community institution. Generally the first installation of surgical appliances and instruments is adequate. If there is a good surgical nurse who has good support from the superintendent, she will be able to keep her instruments and apparatus in good order. Every piece of apparatus in the hospital ought to belong to the institution. It is unthinkable that each member of the surgical staff shall have his own apparatus and that the hospital must care for it for him. Special instruments for special purposes, belonging to the surgeons, can be kept in boxes with the names of the owners on, but these should be limited as much as possible and under no circumstances should the institution be compelled to pay for instruments for the use of any individual member of the staff.

There should be cautery apparatus, hoisting apparatus for the application of plaster casts, an almost complete set of the classical splints, and plenty of splint material that can be molded to individual cases. And, above all, there should be a definite place in which these splints and splint material are kept, and this place should be kept locked and under the control of some one person charged with the responsibility for its care.

It is a piece of good technical work for the surgical department to make up and keep in good working order the necessary boxes or cases for the special ward operations, such as venesection, spinal puncture, various irrigations, and the like. These boxes cost very little to put up and are indispensable in any hospital.

## MANAGEMENT

The management of even the smallest hospital depends almost entirely upon the character and qualifications of the superintendent. A staff member, however interested he may be, cannot assume responsibility for the discipline, control, and good order of a hospital unless he is there all the time, and any staff member or trustee who undertakes to control things in the institution and be away from the place a greater part of the time has a mistaken idea which must lead to disaster. In such a case the people in the hospital come to recognize the trustee or staff member as the dominant spirit, and in that proportion the authority of the superintendent will be lessened, discipline will be broken down, and chaos firmly established. The wise trustee or staff member will do all his business through the superintendent of the hospital in so far as it affects the management of the institution, and he will hold the superintendent responsible for what is done. In that way only can discipline be maintained. There must be coordination of the administrative parts of the hospital with the scientific units. The hospital is a place in which to care for and cure the sick, and the administrative parts are merely cogs in the wheel of a machine. In too many hospitals the administration is the overpowering thing, and the technical departments are regarded as merely necessary evils to be borne with where they must and eliminated where they can be.

Cleanliness and order in the institution are secondary only to the performance of the necessary services to coordinate with the demands of the medical staff. One of the chief functions of the administrator is to command courtesy to everybody who has anything to do with the hospital. A hospital whose people are not courteous must be unpopular, and an unpopular hospital is a hospital that is always in straits for money and that consequently cannot render adequate service to the sick.

**The American Ambulance Hospital in Paris**

The American Ambulance of Paris, organized for the relief of the sufferers of the great war, took its name from a similar organization which rendered never-to-be-forgotten services during the Franco-Prussian war of 1870.

The first volunteers, surgeons, nurses, and untrained workers, were enrolled on August 3, 1914. On August 12 the partially completed buildings of the Lycée Pasteur at Neuilly-sur-Seine were requisitioned by the French War Department and turned over to the new organization.

On September 6, 1914, the first patients were received, and on September 9 a train of motor ambulances, dispatched by the hospital, with surgeons, nurses, and supplies, proceeded to Meaux and beyond. It was the first organized volunteer relief to reach the field of battle.

Since the day of opening, the history of the American

Ambulance has been one of development and extension. The main hospital at Neuilly has a normal capacity of 575 beds, with provision for caring for 625 patients in case of emergency. In its equipment are comprised two general, one special, and two dental operating rooms, two x-ray plants, and pathological, research, and dental laboratories.

The patients treated in the institution have been exclusively surgical cases, and their injuries have in general been of extreme severity, as the American Ambulance has been reserved by the authorities for the treatment of *grands blessés*. From the first a speciality has been made of the treatment of the terrible injuries to the face and the maxillæ so characteristic of modern warfare.

Coincident with the Ambulance Hospital was organized the transportation department, which was progressively developed until, on August 1, 1916, upwards of 250 motor ambulances were in service in the field or in the entrenched camp of Paris. Up to that date over 135,000 sick and wounded had been transported, often under fire, and always under conditions requiring courage, tenderness, and great physical endurance on the part of the volunteer drivers.

The Paris section of ambulances assumes a large part of all transportation of sick and wounded in the entrenched camp of Paris.

The sanitary train of the American Ambulance has been in constant operation between the front and the interior of France since the beginning of 1916. Composed of thirteen cars, it provides for the accommodation of 264 lying and sitting cases, together with attending surgeons, administrative officers, and orderlies. In its equipment are comprised a complete operating room, sterilizing plant, diet kitchen; in fact, everything for the care and comfort of the wounded. The runs of this train now total over 20,000 miles, and over 10,000 patients have been transported in comfort without a single death!

Beginning in May, 1915, a mobile field hospital of 108 beds was placed in service. In February, 1915, an advanced hospital was established at Juilly-sur-Marne.

On August 31, 1916, the report mentions that on that date 1,485 patients were being treated in Neuilly and the various branches. Up to May 31, 1917, over 8,100 cases of acute surgery had been treated in the Ambulance Hospital of Neuilly alone.


In conclusion may be quoted the following from the last annual report:

"The committee desires again to thank individually every member of the American Ambulance and of its various services. Whether braving death and exposure in the field, passing sleepless nights at the bedsides of the suffering, long hours of strain in the operating rooms, or in the performance of humbler but no less important duties, all have shown courage, steadfastness and devotion worthy of the high ideals of the institution."—Monthly Report of the American Fund for French Wounded.

**Executive Offices of the American Hospital Association  
Move to Washington, D. C.**

Dr. William H. Walsh, secretary of the American Hospital Association, announces that the executive offices of the association were removed on October 29 from Philadelphia to 728 Seventeenth street, N. W., Washington, D. C. As is known to practically all members of the association, Dr. Walsh is now in active military service in the office of the surgeon-general of the army.





*The*  
**MODERN HOSPITAL**

Editorial Office . . . . . Conway Building, Chicago  
Business Office . . . . . Metropolitan Building, St. Louis

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W. L. Babcock . . . . . Grace Hospital, Detroit  
John A. Hornsby . . . . . Conway Building, Chicago

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Contributors, subscribers, and readers will find important information on advertising page 34.

### Standardization of Hospitals

Elsewhere will be found one of the papers read at the meeting, held in Chicago, October 19 and 20, under the auspices of the American College of Surgeons, to discuss the problem of the standardization of American hospitals. Unfortunately, Dr. Hornsby's paper was the only one ready for publication at the time of our going to press. Consequently, any extended account of what was done there must be postponed until the December issue, in which we shall hope to discuss the work of that meeting rather exhaustively and to publish some of the more important papers read before it. We regard this meeting as the most important ever held in this country, having for its object the creation or establishment of some definite standards of hospital service in regard both to architecture and to administration.

It will be noted that Dr. Hornsby in his paper has put the hospital problem frankly upon the medical profession. He states without reservation that the hospital will be just as good as and no better than the medical men who work there, and that the hospital will give service to the sick just in proportion to the demands of its medical men.

This paper was read before a very large and selected group of men and women, many of whom are surgeons working in the hospitals, and the remainder superintendents in charge of hospital ad-

ministration. As we understand it, the net result of this meeting is the proposal that the country is to be districted by states and subdistricted by counties and cities, and that committees and subcommittees are to be appointed whose duty it will be to obtain data upon which the actual work of standardization may be built.

It is certain that Mr. Bowman, director of the American College of Surgeons, is going about the matter of standardization in the right way. At this meeting, held in Chicago, he arranged his program for the discussion of three phases:

1. What is the hospital problem of today and what are the hospitals actually doing for the sick?
2. What has medical science a right to expect of the hospitals that they are not now doing?
3. How are these results to be attained?

For several years attempts have been made by committees from the American Medical Association and the American Hospital Association to get hold of the problem of standardization in some concrete, effective way; there were obstacles to be overcome and an immense amount of data was necessary before we could know what we are doing now and what it was necessary to do and how to go about it. It seems that most of the preliminary work has now been done and that the greatest obstacles have been removed. The cardinals of the Catholic church have come strongly to the support of the classification and standardization, and the Catholic hospitals have shown not only willingness, but eagerness, to participate. Public hospitals, state, county, and municipal, which for a long time, because of political influence, have looked coldly upon the proposed standardization, now seem to realize that if definite progress is to be made in hospital service this work of standardization is highly necessary and they seem ready to participate. Private hospitals owned by one or a group of medical men, who have not been disposed to permit the necessary publicity and investigation, seem to have almost about-faced and are ready to help.

The American College of Surgeons has appropriated funds to do this work, and it looks very much now as though we were on the threshold of some very radical progress. Apparently the hospital problem is approaching a new epoch, and soon the whole hospital field will be on a new plane measurable by definite comparable standards. Certainly this is very much to be desired.

### Hospital Finances and the War

The average hospital has a hard time financing itself, and especially has the American hospital had difficult financial problems to solve since the European war broke out; now, it seems, a new fac-

tor, which promises to make these problems extremely grave and critical has entered into the problem. With the advent of our own country into the war and the necessary diversion of untold millions, even billions, in money for war purposes, have come also financial drains on individuals; the Liberty loans have justly called for the extreme in patriotism from our people; the Red Cross appeal for its hundred millions could not be ignored, and a wonderful response has been made to it. In a smaller way other necessities have arisen, such as the equipment of various army and navy units, the creation of base hospital ambulance companies and various other agencies to help in the war. All of these appeals for money have not only a sane business side, but a sentimental one as well. They appeal to the very highest virtues of individuals and states; the call upon patriotism is probably the most insistent call that can be made, because coupled with patriotism we have humanitarianism and charity and all the other highest virtues in their best expression. In fact, the war fever is on us; some of us will go to fight, others of us must stay at home and furnish the sinews of war, but every patriotic American is wrought up to the intensest pitch of his or her being, and we are pouring out all we have in lives and material resources to do the obviously most important thing now facing us, namely, win the war.

But the necessities of our civilian hospitals are quite as urgent as they ever were, indeed, more so, because of the high cost of everything consumed in them. And yet the appeal of the hospitals is an old appeal. We have had it with us during the lifetime of most of us; we have responded as best we could and as a matter of course.

But how it is to be with the support of the civilian hospitals in this feverish war time? Mr. Oliver H. Bartine, superintendent of the Flower Hospital, New York, who was interviewed by the *New York World* recently, was apparently the first to call attention to the likelihood that the hospitals were to suffer because of the serious diversion of benevolent and charity funds into war channels and away from their usual course.

We must warn the hospital people of this danger. While we have no panacea and no specific cure, we feel that the hospitals must put forth herculean efforts at raising funds, because if there ever was a time when the need of hospitals was great, that time is now. There is no special appeal to be made, except to call the attention of those who have been supporting our civilian hospitals to their continued needs. While it is splendidly patriotic to respond to every call to help in the war, it is equally patriotic, equally benevolent, and equally charitable to see that our own hospitals,

built and maintained for our own sick, are not left without resources.

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### Publicity in the Hospital

Great changes have come over the hospital public within recent years in regard to publicity; indeed, very radical changes in regard to publicity have come over the medical profession, and those changes have reflected themselves in the attitude of the hospitals of the country. A decade or two ago doctors were disposed to call diseases and symptoms by Latin names and they were not disposed to discuss diagnosis or the reasons for treatment with their patients. Hospitals were close corporations, so to speak, and their administrators and trustees resented any attempt on the part of the public to pry into their methods.

All this is now changed. In a paper read before the recent meeting of the American Hospital Association, at Cleveland, Mr. Frederick D. Greene, general secretary of the United Hospital Fund, New York, has reflected the new point of view in regard to publicity in the hospitals. He finds that proper publicity is one of the strongest possible agencies by which to command financial support, and that likewise publicity promises more in the elevation of hospital standards of service than almost any other one thing.

This point of view is now ready to be accepted by the medical profession. Individual physicians are discarding Latin names of diseases, meaningless to the average patient, and are talking to their patients in plain terms about what ails them, the cause of the disease, and the necessary measures to be taken for a cure.

Proper publicity and frankness on the part either of the hospital or of the physician do not mean the divulging of useless or injurious information. In the physician's case it would be positively hurtful for him to tell a hysterical young woman that she was threatened with a disease likely to be permanent or fatal; that would only aggravate the trouble. Frankness on the part of the physician in many other situations, however, can become one of the strongest possible aids to a cure of the disease. A man of forty, who has dissipated either in work or pleasure, should be frankly told what he is doing to himself and how far he has succeeded in hurting his constitution. The boy just on the threshold of adolescence can often be saved from the dangers of young manhood if the family physician or the doctor in whom he seeks to confide will frankly put the matter before him and point the way to safety.

In the hospital, publicity is of another sort; it contemplates the giving out of news of the insti-



tutions for magazines and the daily newspapers, more especially the local papers. It is not legitimate news that Mrs. Jones, a patient in the hospital, is about to abort, or that Mr. Brown is under treatment for delirium tremens. The position of the hospital in such cases is that of the confidential agent of the patient. It occupies precisely the same position toward the patient that the family doctor occupies, and it has no business to discuss with anyone, even another physician, the private affairs of a patient in the institution.

Oftentimes the local newspapers feel that they have a right to know all about the private affairs of some patient of prominence in the community and to publish this information. The responsible people in the newspaper management, however, are usually reasonable, and they can be shown that the giving out of such information as this is not possible or proper and will not insist upon it.

The hospitals of a community, however, are or should be health centers of that community, in which all the people have a definite and proper interest, and the local newspapers are eager for information as to what their health centers are doing. They would be glad, for instance, of an opportunity to publish the fact that Mr. Smith has given \$500 with which to buy braces and appliances for the crippled children of the hospital; and this story would have added interest if it could be stated that little Willie or tiny Lily, who have become endeared to the hospital family by reason of a long residence there and the pathos of their cases, were now to be fitted with appliances that would permit them to walk about as other children do. That a new x-ray outfit has been donated to the hospital by Colonel Caldwell, a wealthy citizen of the town, is legitimate and good newspaper publicity, and if to the story can be added the fact that the hospital will now be enabled to make diagnoses of tumors and diseases of the soft tissues that could not be done before, this, with some comment perhaps on just what this means to the sick, would make excellent and profitable reading and would be likely to encourage others to ask the administrators of the hospital whether they, too, might not be of some service by making a donation for some special purpose.

We think that the public of this country in almost any community has now arrived at such a stage of enlightenment and education that it would be proper and a good stroke of business to let it be publicly known when there is an epidemic of any kind in the hospital. Only recently one of the state hospitals for nervous and mental diseases in the central west had a serious epidemic of diphtheria. Visitors were refused admission, tradesmen coming to deliver goods were kept

away from the premises, and an air of mystery was thrown around the institution that set the whole community agog. After the epidemic was over, when it became known that a serious epidemic of diphtheria had been there, there was serious and just criticism of the administration, and the community lost confidence in the frankness and fairness of the administration to an extent that is going to hurt far into the future. If the administration had frankly stated that there was an epidemic of diphtheria which was being handled vigorously, and that among other precautions to stop it was the exclusion of visitors, the community would have appreciated the attitude and would have commended the institution's management for carefulness and discretion.

These are some of the thoughts on publicity brought up by Mr. Greene's paper that it seems to us the hospital people ought to be deeply concerned about.

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#### Hospital Needs of the Small Community

Since the publication of our series of papers on "The Small Community Hospital," a great many inquiries have come to the editorial office about proposed small hospitals in various communities, and we have been asked many times to suggest the proper size, the desirable architecture, and the proper organization of small community hospitals. So many of these letters have come in that it is impossible to answer them all in our Queries and Answers column, and it is equally impossible for us to reply adequately to many of these letters privately without going exhaustively into the subject. These small hospitals are so universally coming to the forefront in this hospital era that it might be well to lay down a few thoughts that will help interested people in these small communities to survey their own situation.

One of the letters that has recently come in asked us to state what we thought concerning the proper size and arrangement of a hospital in a central western town of about three thousand people, with a considerable rural population adjacent. That was practically all the information we had to go upon. It was not stated whether it was a manufacturing or just an average American town with small enterprises, no large pay rolls, and of necessity a community that must be handled strictly as individuals. It was not stated how much money was available, and there was no indication of the character or cause of the prevailing diseases of the community. Whether there were many chronic diseases like malaria seems not to have been thought of by the inquirer; whether there was any hospital in the town was not stated

in the letter of inquiry, nor how far away the next hospital was.

All these things have an important bearing and must be taken into consideration in solving the problem as to the community's needs in regard to the small hospital, and the state of the public mind in regard to hospitals ought to be known and reckoned with. In a small community in which there has never been a hospital, the people usually are rather of the opinion that such an institution is not needed, or that the community is too small to afford a hospital, or that the hospital in another town, twenty miles away, at the end of poor transportation, is quite sufficient. Where this mental attitude exists, there must be a period of education, and the best agency for this is the daily papers and the various societies in the town.

Somebody who knows something about hospitals ought to be brought into the community to study the problem for a day or two, and the community ought to have a public meeting at the end of this study, before which the surveyor could talk to the people and tell them what he thought they needed and why. If there is a real need, the results of such a meeting will spread like wildfire, and the whole attitude of the population is likely to be changed in even a few weeks, especially if the person who has made the survey can give some definite figures that the people can study.

In thinking about a hospital for a small community in which there has not been a hospital, this fundamental principle ought to be laid down: that it is far better to build a ten-bed hospital with administrative space to take care of additions, and that the patients of this small hospital should be thoroughly well cared for according to the lights of medical science, than that a hospital of five times the size should be built that would lay a tax burden on the public. A small hospital of ten beds, in which the people would be well taken care of by the best men in the community, would soon prove to the people the need of such an institution, and more money for additional units would be easier to get than the original fund for the first unit. The point is to do a little and do it well rather than try to do much with equivocal success.

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#### Methods to Insure Economy

We publish in this issue a paper by Dr. Moss, of Baltimore, read before the American Hospital Association meeting at Cleveland, and a letter written to THE MODERN HOSPITAL by Dr. H. T. Summersgill, of the University of California Hospital, both dealing with economies in food administration. These men are good hospital administrators and they have studied their problem. They have

come to the conclusion that, if really workable economies are to be practiced in the use of food and other consumable commodities, the story of what the institution is doing must be told day by day and in a way that will make one day's consumption comparable with that of another.

Dr. Summersgill did not attend the American Hospital Association meeting and did know that the subject was coming up in the form of a paper by Dr. Moss. Dr. Moss had no knowledge concerning what Dr. Summersgill was trying to do in the way of a daily accounting system of commodities consumed. The two administrators seem, however, to have struck upon the same method of approach to that problem, viz., a daily accounting system. We are not altogether convinced or entirely satisfied as to the details of the plan suggested by either Dr. Summersgill or Dr. Moss, but we are quite certain that some modification of their plans that will elicit a little clearer information on daily consumption is the best method by which to measure what the institution is doing for the purpose of practicing greater economies. We very strongly recommend to hospital people that they read and study these two papers with a view to utilizing the suggestions they contain.

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#### Generosity Mobilized for War

A little incident occurred recently that demonstrated, to our mind, how the people of this country, in every walk of life, are mobilizing themselves to win this war with the least possible sacrifice and with the largest possible amount of good feeling.

A doctor in one of our large cities, a man of thirty-five, who had already achieved a medical practice amounting to ten or twelve thousand dollars a year, was ordered to the front as a first lieutenant with the small pay of that rank. The wife of the doctor had set her teeth and prepared to make all the necessary sacrifices to live on the small income her husband would have and to take care of her rather large family of growing children. After the doctor had gone, another doctor in the neighborhood, a man on whom the lieutenant could have no possible claims, made the offer that he would take over the entire practice of the absent one, make the regular charges for service, and turn over all the fees earned from this practice to the wife left at home. That arrangement is now in full swing, the wife has an excellent income, and the absent doctor's practice is being nursed and cared for against his return.

If this war did nothing else than develop such high ideals and such generosity in the American people it will be worth all it has cost.



## MUNICIPAL TRAINING SCHOOLS FOR NURSES\*

With Special Reference to the Organization and Work of  
The St. Louis Municipal Nurses' BoardBY CLEVELAND H. SHUTT, M. D., Hospital Commissioner of the  
City of St. Louis.

The various municipal hospitals have had more or less trouble, sometimes of a serious nature, at irregular intervals, in the maintenance of proper training schools for nurses or in obtaining satisfactory nurses.

The nursing supply has usually been from one of two sources, either from a private training school or direct from a training school conducted by the management of the hospital. The most serious difficulty has been that of maintaining proper standards whereby pupil nurses with satisfactory requirements as to intelligence, preliminary education, etc., could be attracted and retained.

The St. Louis City Hospital, an institution with over 850 beds, for nearly thirty years was supplied in a most satisfactory way with nurses from a private training school—the first one west of the Mississippi River—which was known as the St. Louis Training School for Nurses. This school was organized and conducted by a group of public-spirited women, and the city paid so much per nurse to this school. The board finally decided to discontinue its work because of inability to obtain a sufficient number of younger members, etc., and it became necessary for the hospital authorities to devise ways and means for a continued supply of high-grade nurses.

To overcome the difficulties furnished by indiscriminate recommendations for pupil nurses with varying qualifications, it was thought that it might be wise to vest the power in the hands of a fair-sized board. Accordingly, the St. Louis Municipal Nurses' Board was created by ordinance, approved by his honor, the mayor, June 2, 1915. This board was authorized to make rules and regulations, subject to the approval of the hospital commissioner, for the conduct of the City Hospital Training School for nurses, the nursing department of the Isolation Hospital, the nursing department of the tuberculosis hospital, and the visiting nurses.

In organizing the board it was planned to retain the services of experienced members as long as possible. It consists of seven members, three of whom must be women and one member a physician, appointed for terms, determined by lot, of from one to seven years, with all new appointments for a period of seven years.

The board, in the first two years of its operation, has established a municipal training school at the City Hospital and special training schools for the isolation and tuberculosis hospitals, and has also organized and placed in most satisfactory operation a visiting nurse department for the care of tuberculosis and baby welfare work. The scope of the visiting nurse work can be enlarged whenever it is found advisable.

The City Hospital Training School has been placed on a three-year basis, with entrance requirement of one year in high school. The board is required by ordinance to maintain admission and graduation requirements to conform to those established from time to time by the State Board for Registration of Nurses, but already has established more advanced standards than are required for registration. Pupil nurses receive lectures from the teaching staff of the training school, from the visiting and resident medical staffs, from the resident dietitian, from the head social service worker, and also from the head visiting nurse.

They have opportunities for working in the visiting nurse department for a period of from three to six months during their course of training and also to spend from one to two months at the Isolation Hospital.

A training school has been organized for the Isolation Hospital, with graduate nurses as superintendent and supervisors. Practical nurses, who are of good moral character and have had not less than an eighth-grade education, are utilized for training purposes at a salary of \$25 per month the first year and an increase of \$5 per month each year thereafter for five years, at the end of which time a practical nurse certificate is given them. Pupil nurses from the City Hospital also receive training here, and a certain number of pupil nurses from private hospitals are admitted, when the number of patients will admit. The practical nurse training in this institution seems to have solved in a very satisfactory manner the nursing difficulties which were constantly present in our contagious disease hospital.

The Tuberculosis Hospital Training School has also been organized with a graduate nurse as superintendent and graduate nurses in the more important supervisory positions, and practical nurses in training, and the plan has thus far worked with satisfaction. We believe that the plan of training practical nurses under graduate nurse supervision in such special institutions as a tuberculosis or isolation hospital will furnish the ultimate solution of the nursing problem for such institutions.

The visiting nurse department has been organized with a specially trained head visiting nurse and sixteen graduate, registered nurses to cover the entire city in the matter of tuberculosis cases and baby welfare feeding clinics; eleven nurses are assigned to the tuberculosis work and five to the baby welfare department.

The board has thus far been able not only to place in operation and maintain the three training schools of separate character and to organize an entirely new visiting nurse department in a satisfactory manner to the hospitals, the medical profession, and the people, but also constantly to elevate the standards of work in the several departments.

It must be admitted that the membership of the board was carefully chosen as far as possible from experienced persons. The three ladies on the board were selected from the old St. Louis Training School Board; two members were chosen from a former hospital board; the physician was a full-time university pediatrician with no outside practice, and the remaining member is a member of the legal fraternity, who has given a great deal of attention to charitable work. The board membership, therefore, had an experienced viewpoint from the beginning and has been able to cooperate with the several institutions and departments of the city government, as well as to keep the entrance requirements for pupil nurses on such a basis as to attract the most desirable class of nurses and in sufficient numbers.

The cornerstone of a \$2,000,000 hospital and medical college being erected in Peking by the Rockefeller Foundation, was laid September 28. Many prominent persons were present, including Fan Yuen-lien, Minister of Education, Dr. Paul Reinsch, the American Minister, and Admiral Austin Knight, commander of the American Asiatic fleet.

The Patton State Hospital, Patton, Cal., is building a home for its nurses.

\*Read before the American Hospital Association at its nineteenth annual session, Cleveland, O., September 12, 1917.

## REPORT OF COMMITTEE ON ACCOUNTING\*

## Standardization of Work Done, Census, Financial Accounting, Emergency Service, and Dispensary

BY A. R. WARNER, M. D., Cleveland, Chairman; FREDERICK D. GREENE, New York; and MALCOLM T. McEACHERN, M. D., Vancouver, B. C.

As part of the report of the standing committee on hospital efficiency, the chairman of the present committee on accounting presented a paper at the meeting of this association last year, dealing with the present lack of uniformity in policies as well as in the details of reporting and accounting of work done and of the cost of hospital maintenance. This paper also referred to the failure of all previous attempts to standardize or to unify hospital accounting. An appeal was presented to the association that it again make an attempt to secure the unquestioned value which would necessarily come from a standardization and unification of hospital reports, both financial and statistical, but by very different methods from the previous attempts.

To the paper of last year was appended the following resolution, which was adopted by the association and the present committee appointed under its provisions:

"Resolved, that a special committee of three on hospital accounting be appointed by the president to serve until discharged by the association. This committee shall from time to time propose such recommendations leading to more uniform and comprehensive accounting as it shall deem advisable. The recommendations and reports of this committee shall be considered by the association, and if the recommendations are adopted, an effort to cause their use in hospitals represented in this association should be made by the members of this association representing such hospitals."

The plan suggested in the report at Philadelphia was to attempt to secure the advantages of standardization by the adoption from time to time of standard figures or totals which should be definite in their meaning and computed and understood alike by all hospitals. It was deemed possible to develop the use of many such figures without causing extensive changes in the systems of accounting now used by various hospitals, which necessarily are to a certain extent individual to the various hospitals.

In accordance with these ideas, the committee recommends the standardization of the following terms, facts, and figures, and the inclusion of these terms, facts, and figures in all published reports:

## WORK DONE

The first and most important figures to be standardized seem to the committee to be those representing the amount of hospital treatment given in a year and the arrangement of these figures so that the persons supervising organized charity in every community may know that hospital's contribution to charity—to the community. It is recommended that all hospital patients be classified as follows:

1. "Pay." This class to include all patients paying an amount equal to or above the cost of their care. In this class there is no contribution by the hospital to charity.

2. "Part-pay." This class includes all patients paying something for their care, but not full cost. The difference between the sum received from such patients and the cost of their care, as figured from the average per capita diem of the hospital, is the contribution by the hospital to charity in the care of these patients.

3. "Free." This class includes all those who pay nothing whatsoever for their care. The entire cost of providing hospital care for these patients to the extent of the total number of free treatment days is computed directly from

the average per capita diem cost. Such a figure represents, therefore, the contribution of the hospital to society in the care of these people.

In each class there should be computed and reported the number of persons receiving care, the number of days of treatment given in each class, and the amount of money received from the patients in each class with corresponding totals representing the entire work of the hospital. The classification of the patient should be transferred as necessary with or without the actual transfer from one bed to another. A patient may enter "pay" and so remain for a time occupying a private room, then on account of failing resources become a "part-pay" patient, and in the end the absence of resources may require that this patient be made entirely "free." On the other hand, a patient may enter "free" and the assistance of a wealthy relative cause transfer the other way. These figures show at a glance the contribution of a hospital to a community and indicate definitely the support which the hospital should receive from the community it serves.

## CENSUS

To figure absolutely the days and fractions of a day each patient remains in the hospital and the total hospital days from these figures is both cumbersome and unnecessary. It has become a quite universal custom for each ward in a hospital to send to the office the census report showing patients on the ward at midnight every night. For every person so recorded the hospital credits itself with a hospital day of treatment in the class to which each patient belongs. As few patients arrive at midnight this system is rarely accurate in individual cases, but the average is more accurate than any averaging system yet devised, and for statistical purposes is far more accurate than most of the other figures obtainable. It is recommended that this system be adopted as the standard.

## FINANCIAL ACCOUNTING

In the financial accounting the committee does not think it advisable to recommend that more be done at the present time than to urge hospitals to report as accurate a figure as possible representing total hospital maintenance cost. This figure divided by the total days of treatment given to all classes gives as quotient the average per capita diem cost. This is the figure to be used in computing a hospital's contribution to charity, etc. In some hospitals the maintenance cost of the private patient does not differ materially from that of the ward patient. There are many items in common, and the additional expense for the few differing items, as for food, plumbing maintenance, etc., is often balanced fairly well by the decreased nursing care given by the hospital because of private nurses employed by the patient. In some hospitals, private patients may be housed and served in a way to make the expense of their care distinctly different from the average cost of the ward patient. In such cases a separation in accounting is advisable.

To secure a maintenance figure worth while, complete separation of capital from maintenance accounts is necessary and should in all cases be made. In maintenance cost figures should be included all expense items contributing to the care of patients, regardless of the sources of income, whether it be from general or special funds, from personal contributions, or from other sources. The primary object of the published report should be to announce the work for society and the cost to society so that the need for the existence of the institution, the demands made upon it for its aid, the wants and the opportunities for greater serv-

\*Read before the American Hospital Association at its nineteenth annual session, Cleveland, O., September 12, 1917.



ice, and the efficiency as well as the effectiveness of its work may be accurately judged. To this end standards for measuring the work done are necessary and the total maintenance cost figure should represent the total cost to the community—to society—not the cost to a certain fund or funds. Perhaps the simplest way to combine special gifts or funds is to pay for the specified items directly from the general maintenance fund and then transfer the income from the special funds or gifts to the maintenance or general account.

#### EMERGENCY SERVICE

The emergency service of many hospitals is negligible in cost or in amount. In general, emergency patients and all patients who stay less than twenty-four hours, which usually includes tonsillectomy cases, should be kept separate. If the number of emergency or overnight patients cared for by a hospital is considerable, such service must be reported separately, both in volume and cost.

#### DISPENSARY

The two essential figures in the work of a dispensary to report are: (1) new persons admitted; (2) total visits made. The new persons admitted represent the extension of the dispensary work among the neighborhood people. This figure is different from those figures representing the number who come with a new sickness or complaint, "new cases," or the number of different people attending in a year, etc. The comparison of this figure with the number of total visits made indicates more accurately than any single figure devised the sociologic value, the efficiency of a dispensary. The larger the ratio between the total visits and new persons, the more visits the average patient must have made, thereby reducing the principal defect in efficient dispensary work—the drifting away of the patient. This ratio also indicates the attitude of patients toward the services of a dispensary. If patients are properly treated and they feel that the service of a dispensary is worth while, they will return and keep under the advice of the dispensary physicians. Some patients may really need but one visit, but the proportion of these in dispensaries of like type in various sections of the country is practically constant. An average of more than three or four visits is unquestionably required to treat properly the patients of any general dispensary. The ratio between the total visits to a dispensary and the new persons admitted is approximately this average. It is quite important that the number of visits made to each clinic be known on account of necessary internal adjustments and management, but such figures have not proven of general interest unless used as a basis for calculating the average number of visits made by patients to each clinic. The separation of the visits made by men, women, and children, or residents and non-residents, etc., may at times be interesting, but the general value of additional records does not seem to be established.

The maintenance cost and the average visit cost of the dispensary should not be mixed up with the hospital figures. Many of the items of expense of dispensary maintenance are necessarily separate. The others may be quite accurately estimated and prorated from the common figures, although separation at the source may be impossible, as in the case of expense for heat, light, etc. The only really essential financial figure is the total maintenance cost, and this, divided by the total number of visits, gives the average visit cost, which corresponds directly with the average per capita diem cost to the hospital.

Other special departments of hospital work, such as pay or diagnostic clinics, ambulance service, extension of

medical service to the homes, etc., should be treated as a pay pavilion, large emergency service, or general dispensary; i. e., the cost of such service kept separate and not included in the general per capita figure of the hospital or of the ward patient.

The committee realizes that strict accuracy can find many flaws in the above figures, but strict accuracy in such figures is impossible. A hospital cannot spend all its energy keeping books. The above figures, however, do appear to the committee as the best averages and most valuable totals to be standardized and uniformly computed and reported.

It is hoped by the committee that these recommendations will be fully discussed and if adopted will be incorporated in the annual reports of every hospital represented by this association. It is also recommended that this committee not be discharged at this time.

#### CLINICS AND VISITING NURSING

##### A Trained Nursing Service to Meet the Needs of the Self-Respecting Middle Class—Range of Fees

BY MARY ELIZABETH HAAG, R. N., Superintendent of the Kokomo Public Health Nurse Association, Kokomo, Ind.

In cities where the clinic and visiting nursing are organized on a pay basis and with the idea of teaching preventive methods of service, much good is accomplished. A class of people whose incomes are up to \$2,000 a year and less may be reached. This might not be possible otherwise, as, in this day of specialized medical work, these people are not able to avail themselves of early diagnoses, continued treatment, and operations, which are beyond their reach unless a clinic and trained nurse's service are provided. Nor do we find among this group of self-respecting, self-supporting families many who will borrow or accept charity. These people are able to meet the general expenses of daily life, but when illness brings its often heavy demands, there is no margin for medical aid.

One of the aims of such service is to reach the deserving class. A follow-up system of trained visiting nursing in the home, when the clinic patient needs care, is one source of information for the doctor's history sheet and the investigation necessary to bar abuse of the service. Patients are given to understand, in the first visit to the clinic or in the home, their eligibility for the service. The nurse or social worker on duty at the clinic gets a definite history of the social side as well as the medical of the family, including especially the question of whether they have a family doctor or are under a doctor's care at the same time as they are coming to the clinic, what the income is, the items it must carry, number of dependents in family, health of members. The supervisor of the clinic knows how the budget of a family with a given income is expended.

The staff of physicians has regular days and hours of service scheduled, usually hours for surgical work daily, medical three hours per week, two babies' and children's clinics, two clinics for prenatal and post-natal service. With a sufficiently large staff and assistant staff men, they can be depended upon to attend their clinics regularly. A doctor, supervising nurse, and assistant nurses to carry the work well are on hand. Patients are requested to report before the doctor's arrival to prepare history sheets, have dressings ready, and eliminate those who do not need the doctor's attention, for instance, those who are to have minor dressings, and those cases in which directions for the nurses enable patients to be cared for between their report days.

Patients are directed to the physician in whose care they are for continued service, unless treatment or advice is needed between clinics. In this way the interest of doctor and patient is established. The patient naturally feels the doctor is interested, especially if prolonged and painful treatment is necessary, or serious surgical work. The doctor has the satisfaction of seeing the patient throughout this time necessary for cure.

Another bond we find of good use in the success of our work is the visiting in the homes by the staff doctors, when the patient is too ill to report at the clinic. The nursing and teaching in the homes of patients, by the trained nurse probably helps to lessen the high sick rate and death rate. Throughout all the plans for the clinic and nursing service is the preventive idea, enabling the people to come to the clinic when early symptoms of disease manifest themselves, securing prompt advice and treatment; and we know that a great deal is accomplished which otherwise would not be possible.

As to fees, they are arranged on a scale of from 10 to 50 cents per visit. Sometimes the patient is able and willing to pay part of a fee for the doctor's service as well as the dressing or treatment needed. The fees are used toward the expense of the clinic. The arrangement for the nurse's service in the homes is the same. Some months the expenses of the clinic are fairly well covered. The plan is not by any means a money-making scheme or one to replace the family physician or the visit to the doctor's office, but a very necessary medium for a service found wise, time-saving, and health-saving, and within the reach of a class of people who are very deserving and of value to a community.

There are, of course, many who cannot pay, or sometimes pay a little, and most often have no funds. A very necessary work is included in the service for them, helping them to a recovery that means self-support, and lessening the relief burden the communities carry, often through their ignorance and lack of advantages, by aiding them to secure reliable medical service, which might not otherwise be possible for them.

Increasing figures of disease and death rates are lessened by comparison when such a service is established. When people with means can be made to realize what a clinic and visiting nurses' service means for their city or town, the funds are usually available. We know that the United States spends hundreds of millions a year for physical degeneracy and disability, and preventable disease. Hospitals, schools, visiting nurse organizations, or groups of interested people of means, can establish clinics of this kind. As a start, a waiting room, a consultation-treatment room, and another room for recovery or private treatment are all that are necessary. Two separate entrances are desirable, so that the patient need not go out through the room by which he enters.

#### Meeting of West Virginia State Hospital Association

Because all of the hospital executives are busy persons, it was decided to hold the hospital meeting at Fairmont, W. Va., the day before the state medical meeting, that is, October 1, and to concentrate in one short business session in the afternoon. Accordingly the address by the president, Dr. W. A. McMillan, of Charleston, outlining the things for which the hospitals of the state must stand, and Miss Edna Brown's paper on "Training of Our Future Nurses," were the only addresses presented.

The association authorized the appointment of a special

committee to represent the association in seeking an advance of compensation case rates to be allowed hospitals.

Each senator and representative was also addressed in a special appeal, requesting their assistance in preventing the taxing of alcohol by the present session of Congress.

Officers for the coming year were elected as follows: Dr. W. A. McMillan, president; Dr. B. B. Wheeler, first vice-president; Dr. J. A. Guthrie, second vice-president; Dr. R. E. Vickers, third vice-president; Mr. Pliny O. Clark, secretary and treasurer.

#### Land Transportation in the British Naval Medical Service

The medical department of the British navy has created a special land transport organization for the removal of the wounded from the points at which they may be landed. Surgeon-General Sir James Porter and Staff Surgeon A. Vavasour Elder describe this phase of the work in the *British Medical Journal*. The organization includes a central office at the admiralty, medical transport officers at the chief naval ports, and assistant medical transport officers at all places round the coast where wounded are likely to be landed after action. One of the difficulties of the problem is the impossibility of foretelling just where and in what numbers wounded will be landed. In order that no place which is likely to receive wounded may be left without means of rendering medical aid, emergency medical depots in charge of medical transport officers have been established at various places along the coasts.

From the time a wounded man is landed from a ship until he is placed in hospital, he is in charge of the land medical transport. When a man is wounded severely enough to require immediate treatment in bed, after having received medical attention, he is placed in his cot, in which he travels all the way from the fighting ship to the hospital.

All the ambulance trains, motor ambulances, bearer-parties, etc., have been specially organized in a standard and uniform manner with regard to each link in the transport chain—thus, the patient and his cot with bed and bedding are landed from the ship and turned over to bearers specially trained in the handling of cots, who carry the cot to the ambulance or ambulance train, as the case may be, and load it. In exchange for the "loaded cot" the ambulance or ambulance train gives a clean, empty, and fully equipped standard cot for return to the ship from which the patient was received. In this manner the fighting ship always maintains her complement of clean cots.

When an ambulance or train is filled it moves off to its destination, and on arrival, the same exchange of cots is made as before, and so on throughout each link until the patient is finally taken out of his original cot and put in bed in hospital. By this method there is a constant outgoing stream of clean cots from the base to the ships at sea all ready for further service. Everything connected with the land transport of wounded is maintained in a state of immediate readiness, and finally, and most important of all, the wounded themselves are spared the sufferings caused by repeated transfers from ambulance stretcher to ambulance train and back again to another ambulance stretcher, etc. Also the time taken thus to empty an ambulance train is very brief, and the delay to ordinary passenger traffic practically nil. At the large naval bases arrangements exist for the cleaning of all cots and bedding, and a store of clean cots for exchange purposes is also established.



**INDUSTRIAL TRAINING FOR THE FEEBLE-MINDED****Excellent Work and Wide Variety of Tasks Accomplished Under Skilled Guidance by Feeble-Minded Workers**

It has been observed that during the past decade there has been a great change in the proportion of types of the feeble-minded coming to asylums. Ten years ago four-fifths were idiots and imbeciles and only one-fifth border-

sieve. A man who in former days and under simpler conditions might have been self-sustaining even though not conspicuously successful is today decisively rejected as not up to the standard required for employment. So long as he was self-supporting he might have passed for normal, though dull, but, coming under scrutiny as a dependent, he is quickly found to be a defective.

Society, therefore, must have an ever heavier burden



Fig. 1. Some of the industrial classes and shops for the boys and men in the State Institution for the Feeble-Minded of Western Pennsylvania.

line cases and morons. Today the proportions are reversed; there are four morons and border-line cases to one imbecile or idiot. Dr. Charles Bernstein, whose interesting work at the Rome State Custodial Asylum, Rome, N. Y., is described in the July issue of this journal, suggests that this is due to industrial changes. Modern industry sifts candidates for employment through an ever finer

to bear unless it can find some way of utilizing the labor of these rejected ones. Fortunately, it is now realized that these grown-up children have industrial capabilities, and can attain happiness and self-expression only through the employment of such abilities as they have. They are incapable of self-direction, but under competent and kindly guidance they may reach what is, for them, full measure

of usefulness and happiness, and become less of a burden to the state.

The accompanying illustrations show some of the industrial classes in the State Institution for the Feeble-Minded of Western Pennsylvania, Polk, Pa., and the New Jersey State Institution for Feeble-Minded, Vineland, N. J., and some of the work accomplished in those classes. The high

taught little from books. Many of these children under direction are self-supporting. Appropriate work and play bring happiness and contentment in the institution for the feeble-minded. Appropriate employment is a most remedial employment, and properly systematized is of great economic value."

Many of those who have passed through the school



Fig. 2. The women and girls in the State Institution for the Feeble-Minded of Western Pennsylvania have their share in the industrial life of the place.

grade of the products will probably be surprising to many who do not realize the industrial capabilities in the feeble-minded. Dr. J. M. Murdoch, superintendent of the State Institution for Feeble-Minded of Western Pennsylvania, says:

"Many of the children who do the most exquisite arts and craft work are unable to read and write, and can be

training but who are not able to get along in the outside world are profitably employed in a great variety of useful activities. The men and boys in the State Institution for the Feeble-Minded of Western Pennsylvania aid in the tilling of the soil on a farm of six hundred acres, and raise farm and garden produce for the twenty-three hundred members of the community. Much of the farm has



been cleared and roads over the farm have been built by these boys and men. Making concrete walks, culverts, and fence posts and caring for cattle, hogs, and poultry are also among their tasks. Those who, because of physical deformity or lack of physical vigor, are incapable of working on the farm, while others, during the winter months, are engaged in weaving carpets and rugs and making mat-

and in various other branches of housework. Fig. 2 shows some of the special activities of the girls and women.

Fig. 3 illustrates some of the products made in these classes. All of these articles, it must be remembered, were made by feeble-minded children. The mental age of the great majority was either 8 or 9 years.

Interesting work in the same direction is being done also

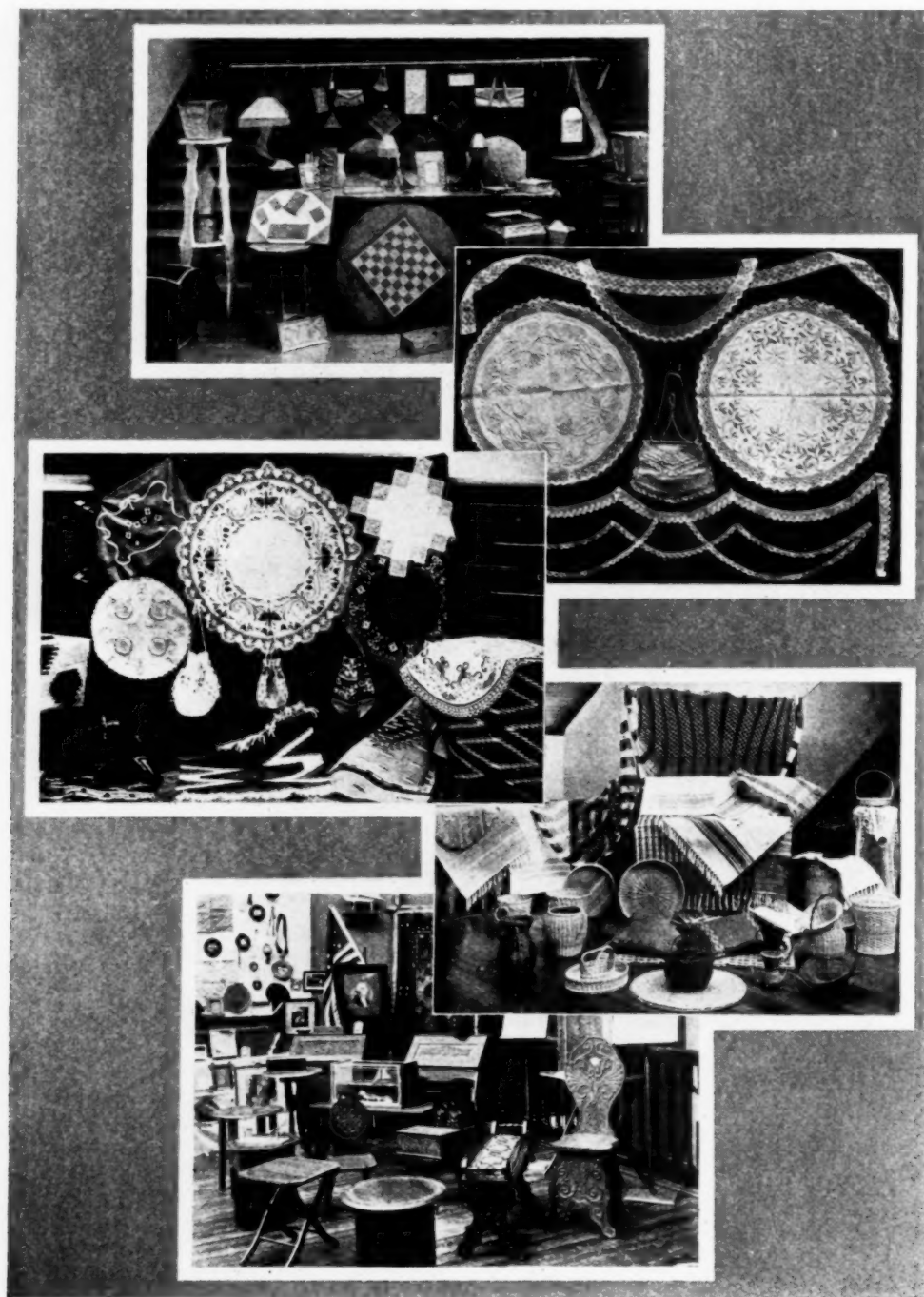


Fig. 3. Some of the beautiful articles produced by feeble-minded children in the State Institution for the Feeble-Minded of Western Pennsylvania.

tresses, clothing, shoes, brooms, brushes, and furniture. Fig. 1 shows some of the men and boys of the institution thus engaged in tailoring, leatherwork, shoemaking, and the making of baskets and hammocks.

The women and girls make dresses, baskets, stockings, embroidery, a very fine grade of cluny lace, and woven tapestry. They are usefully employed also in the laundry and the kitchen, in the preserving of fruits and vegetables,

at the New Jersey State Institution for the Feeble-Minded, Vineland, N. J., under the direction of Dr. Madeleine A. Hollowell. There the motto is "Every patient should be trained to the highest limit of his capabilities." The children are examined on admission and graded according to the facts discovered. They pass through Montessori classes, and those who are capable of receiving such training are grounded in the three Rs. Hammock weaving, rag

carpet weaving (Fig. 4), Navajo rug weaving, trade sewing (Fig. 5), embroidery, and basketry are some of the practical crafts that are taught in the industrial classes in these institutions.

The pupils also do the domestic work of the institution. The class of work is carefully selected to suit the type of individual. Imbeciles make excellent laundresses, and in the New Jersey State Institution the imbeciles are em-

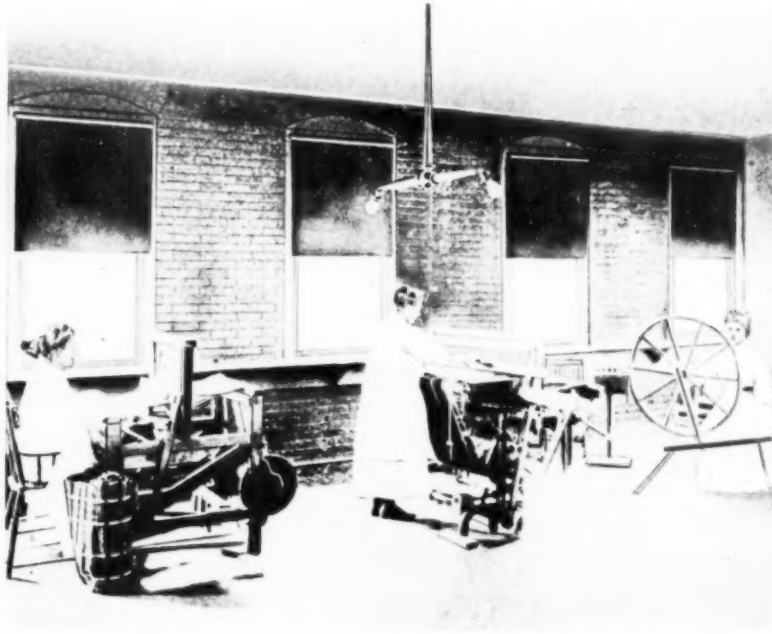


Fig. 4. Weaving rug carpets in the New Jersey State Institution for Feeble-Minded, Vineland, N. J.

ployed almost wholly in this line of work. The washing, mangling, ironing, yard work, and linen room work is done by imbeciles under the supervision of one trained employee with two high-grade assistants. Imbeciles and morons are employed also in the kitchen, the bakery, the butcher shop, and the dining rooms.

A modern dairy, which provides sanitary and adequate accommodation for thirty cows and twenty calves, with feed room, milk room, two silos, storage barn, and stable, is also operated entirely by patients under the supervision of a specially trained woman. This class of work is said to be specially adapted to the defective delinquent type of patient. It satisfies their desire for self-expression and their need for something to love and care for. Milkmaids attend to the milking, dressed in their sanitary uniforms. A friendly rivalry exists among them for the record milk yield of their respective pets. The patients work here from 5 a. m. until 6 a. m., breakfast time. They return at 6:40 and work until 8:30. At 8:45 they return to their classes, which continue until 11:30. This gives them time to feed the animals before the dairymaids have their own dinner. After a rest period, a portion of which follows the dinner, the patients return either to other agricultural work or to study. No one line of work is allowed to occupy any given patient's entire daily program. A certain number of hours' work of a suitable character is interspersed with study or diversion of various character.

The raising of pork for the use of the community is a

profitable industry for the institution. It is also an occupation highly prized by the patients. The scrupulous standard of cleanliness maintained perhaps does much to render the work attractive.

One hundred and forty-nine acres of land are devoted largely to trucking and other agricultural industries on as intensive a scale as possible. The growing of the small fruits and vegetables necessary for the use of the institution requires, during the summer, the efforts of all the patients that can be spared from the other industries. The harvest is large, both in produce and in invigorated constitutions. Every grade of feeble-minded except the very lowest can have a share in this work. White and sweet potatoes, sweet corn and field corn, tomatoes, string and lima beans, onions, cucumbers, cabbage, celery, peas, turnips, squash, pumpkins, parsnips, peppers, spinach, radishes, lettuce, cauliflower, eggplant, watermelons, cantaloupes, strawberries, raspberries, blackberries, peaches, pears, cherries, rye, and alfalfa are all grown in great abundance, being cultivated and harvested by the patients under competent instruction from attendants. Patients husk corn in the fields. In the same way the woods are cleared of their undergrowth and the grounds of refuse under the respective captains of the various clubs.

There seems to be no limit to the accomplishment of patients under proper supervision. Digging trenches and cellars and concreting foundations and sidewalks are tasks just as interesting to the type suited to this class of



Fig. 5. Feeble-minded women and girls in the New Jersey State Institution for Feeble-Minded doing trade sewing.

industry as trade sewing, mending, and housekeeping are adapted to another type.

"Much sentimental and ill-directed sympathy," says Dr. Hallowell, "is felt for what are commonly considered to be 'these poor incarcerated individuals.' No greater fallacy was ever given voice, as their happiness is found in the performance of duty and participation in pleasure."





Conducted by MISS ANNIE W. GOODRICH,  
Teachers' College, Columbia University, New York City.

Please address items of news and inquiries regarding Department of Nursing to the editor of this department, Teachers' College, Columbia University, New York City.

### The Teaching of Bacteriology in Schools for Nurses

BY BLANCHE PFEFFERKORN, B. S., R. N., Instructor, School of Nursing and Health, University of Cincinnati.

In the quickening of the nurse training school movement during the past decade, the entire body of knowledge comprising the education of the nurse has undergone a searching and critical examination, both as to validity of content and as to pedagogical legitimacy of method. A critical attitude is a promising sign, particularly when turned into constructive channels. It not only stimulates retrospective analysis, but arouses introspection as well, and frequently gives rise to perspective, all of which are necessary and inevitable elements in the evolutionary process. Indeed, it seems to be one of Nature's laws that any great economic, political, social, or educational change be preceded by looking backward, looking inward, and looking forward.

Such a self-analysis is stirring the training school. It is finding expression in various directions, but up to the present time the curriculum has been the chief point of attack. Educators in the nursing world are realizing and facing the fact that, until readjustments are made in the course of instruction of a nature to give it merit to rank among other educational systems, nursing education will not be recognized by colleges and universities. Old forms, old traditions that no longer meet living issues must be abolished if the much-desired articulation between training school and university is to be accomplished.

Not one particular part, but the entire program, is undergoing this survey of inquiry. Bacteriology, in common with other subjects, is coming in for its share of the searchlight. In the case of bacteriology, the facts disclosed are more or less exhausted by the following statements. Bacteriology, a science subject, is given in a prescribed set of lectures, the number varying with different schools. Occasionally demonstrations are added; in rare instances a well-equipped laboratory is accessible. These methods are futile. Honesty will compel those of us whose instruction was of this character to admit that though we went through the bacteriology course, the bacteriology rarely went through us. At the end of the term the limitation of our knowledge of the subject and its application to public health problems was its most conspicuous feature.

It is far from my intention to decry the past. That would indeed be disloyalty to a loyal cause. Rather would I wish to emulate those of our forbears whose keen insight into the needs of a nurse and whose appreciation of her work in the community first added bacteriology to the training school curriculum. It is a rich legacy, and one

which, if rightly used and carried forward, should multiply and prosper. So many difficulties have accompanied the development of training schools, it is small wonder that the introduction of scientific instruction with the complementing facilities have had to yield to more immediately pressing issues. Moreover, at the present time, a study and modification of the curriculum is not peculiar to the school of nursing. It is part of a general movement experienced by primary and secondary schools and colleges throughout the country, and can only be regarded as one of the manifestations of a changed social system with changed social needs.

A discussion of the teaching of any subject involves certain considerations. First and perhaps most important: What is the purpose of the course? How is it going to contribute to the mental horizon of the student and the welfare of the community? Concretely, Will the nurse be a more efficient nurse because she has studied bacteriology?

A brief survey of the medical and nursing situation will answer this question.

The phenomenal development of the science of bacteriology in the past fifty years has greatly multiplied the possibilities of medicine, not only curative, but, what is even more important, preventive. The discovery that a large share of the ills of the human race are due to a particular micro-organism, just as much a part of the great biological kingdom as man himself, has revolutionized the practice of medicine. As nursing is, or should be, the intelligent agent of medicine, the sequence has been what might be expected, an equally profound reaction in the practice of nursing. The public health nurse, serving in the capacity of educator, sanitarian, inspector, and what not, is the chief manifestation of this development. She, along with the physician, is applying the principles worked out by the great Pasteur, Koch, and others, in order that the world may be a more decent, cleanly place in which to live and the human race enjoy breadth as well as length of life. Unless she be given the proper tools she cannot become the master of her art. An understanding of the fundamental principles and application of bacteriology is one of the strongest weapons with which a nurse can be armed.

So much for the purpose and need of bacteriology in the education of the nurse. The next points to be considered are: When shall it be given? What subject-matter shall be included? How shall it be taught, and how many hours are requisite for adequate instruction? There seems to be a difference of opinion as to its logical place in the program. In the past, it has commonly been given in the preliminary course, but experiment indicates the wisdom of a later period, some time in the second year. Since bacteriology is one of the biological sciences, the pedagogical principle of proceeding from the known to the unknown might better be employed, if the student had first mastered the structure and function of higher organisms before approaching the study of micro-organisms. In addition to anatomy and physiology, chemistry should precede bacteriology. How can the process of fermentation and various other phenomena be explained without a background of simple chemical facts? Then, too, will not an impetus be given to the study of bacteria if the student has seen the clinical picture resulting from bacterial invasion? Perhaps the objection will be raised that it is unsafe for the student, the patient, and the community to delay bacteriology until the second year. In so far as the objection is just, it is met by the introduction in the preliminary term of an elementary course of fifteen lectures

in bacteriology, public and personal hygiene. The more advanced presentation is given after the class has compassed the preparation stated above. Otherwise the student has a subject imposed upon her during a period when she does not feel its need, and later, when its application becomes a potent factor in her work, much that she has learned is vague and indefinite, or the subject is presented to her at a time when its value can be measured in terms of daily experience. Psychologically, either the first or second term of the second year would seem the more desirable period.

In the selection of subject-matter it is well to keep in mind the motive in teaching bacteriology to nurses. Bacteriology belongs to that group of subjects, educationally listed under applied sciences, which, stripped of pedagogical terminology, simply implies that the value of bacteriology lies not in the knowing, but in the application of the known. As a matter of fact, the practice of the principles of bacteriology by the nurse dates from her very first lesson in damp dusting. All subsequent training in scrubbing, in disinfection, in sterilization, in acquiring an appreciation of the meaning of laboratory tests, is merely a continuation of the first lesson. It is obvious, then, that the value of bacteriology to the nurse lies not in an elaborate laboratory technic, not in the part bacteria play in economic production and agriculture, but in an intelligent, workable understanding of the principles underlying the prevention and control of transmissible disease, immunity, sanitation—in toto, "personal and public hygiene." Right here it might be asked if, since bacteriology gives the reason why, and hygiene gives the act, it would not be advisable to call the course "bacteriology and hygiene," rather than bacteriology, and so associate in the mind of the student from the very beginning the organic relationship between the theory and practice.

A perfectly clear idea having been reached as to the part bacteriology is to play in the social life of the nurse, the choice of subject-matter becomes a comparatively easy task. The following topical outline is offered as a suggestion. It claims no special originality, and is not unsimilar to outlines given in many other schools. The value of the scheme depends on the careful working out of its details and the tying up of newly acquired facts with facts already known and with actual ward work.

#### BACTERIOLOGY

Topic I. Theories of Disease. The rise and influence of bacteriology. Its relation to preventive medicine and hygiene.

Topic II. Biology. Main divisions. Definitions.

Topic III. Green plants. Structure. Biological functions. Economic Aspects.

Topic IV. Molds. Structure. Biological functions. Economic aspects.

Topic V. Yeast. Structure. Biological functions. Economic aspects.

Topic VI. Bacteria. Structure. Biological functions. Economic aspects.

Topic VII. Vital phenomena exhibited by bacteria.

Topic VIII. Conditions affecting the life and growth of bacteria.

Topic IX. Disinfectants and disinfection.

Topic X. Bacteria in the air and soil.

Topic XI. Bacteria in water, milk, and food.

Topic XII. Economic phases of bacterial action.

Topic XIII. Bacteria and disease in animal organisms. Immunity.

Topic XIV. Protozoa, insects, and disease.

Topic XV. Principles of bacteriology applied to prevention and treatment of communicable diseases.

A word to support the selection of this content, and the method of presentation which follows. The significance of

Topic 1 is obvious. It will be observed that Topics 2, 3, 4, and 5 deal with higher organisms of the biological phyla. In covering this part of the outline, the instructor either gains or loses much ground. By constantly emphasizing biological science as a whole, and making a gradual descent from animal and plant life which are more familiar to the student to animal and plant life which are unfamiliar, the transition into an unknown world can be imperceptibly made, and bacteria and protozoa, instead of being intangible, indefinite entities, take their place as living, vital factors of the universe. Throughout the course stress should be placed on comparative structure and function, always keeping in the mind of the student the similarity of all life, whether it exists in the great frame of the elephant or in an infinitesimal plant in length  $1/25,000$  of an inch. The status of micro-organisms in the world of biology having been defined, the physiology and results of bacterial growth and conditions affecting it should next be brought to the attention of the student. This, again, is a topic rich in possibilities. As each condition is cited, the practical application in the technic of nursing should be brought out. For the sake of illustration, take the effect of temperature on the life of bacteria. After the instructor explains the difference between minimum, optimum, and maximum temperature, a class of juniors ought to be bubbling over with examples of nursing procedures embodying this principle. Pasteurization, sterilization, and disinfection by boiling and steam heat are operations that have come within the experience of some, if not of all. If this method be followed throughout the term, the linking of the old with the new, the theory with practice, by the time the student has completed the course in bacteriology a new intellectual vista will have been opened up. Scrubbing the hands before leaving the ward will no longer be a part of hurried mechanical routine, but an important procedure, appreciated as based on scientific principles, involving both personal and public health.

Further interest can be stimulated in the course by readings, papers, and class discussions on the relative contribution of Pasteur, Koch, Lister, and other great workers in the field. Another scheme to induce class activity and liberal use of reference books is the assignment of a report, tabulated in good form, on the cause, mode of entrance, method of transmission, prophylaxis, etc., of a given list of communicable diseases. If time will permit, a study of the history of puerperal sepsis, "hospital gangrene," asepsis, and antisepsis might be profitably taken up. Charts are valuable for illustration, which show the morphology and methods of reproduction of molds, yeasts, and bacteria, and which graphically represent statistics on the relation of the incidence of various transmissible diseases to water supply, to sanitation, and to the use of biological therapeutics.

Such, in brief, is the subject-matter and method of class-room presentation. The next point to be considered is that of the laboratory demonstrations and laboratory practice. Bacteriology can no more be taught by lectures, recitations, and quizzes than can chemistry, physics, or any other applied science. "Seeing is believing." Being told that a particular micro-organism possesses the power of motility imparts only an abstract fact, but looking through the microscope at a squirming, moving animal fixes it as a real experience. Being told that scrubbing the hands is a safeguard against infection is not convincing, but let the student take a culture of her nails before and after five minutes of brisk scrubbing and study the results, and hard scrubbing takes a new significance. One of the great advantages in the teaching of bacteriology is that



the instructor does not hand over to her class a mass of lifeless facts, but for every principle laid down in the class room there is complementary laboratory work. Nothing need be taken for granted.

The next issue to be considered is the number of hours necessary for the course, and their division between class and laboratory periods. As a general rule, which may require modification at times, each class hour should be followed by a laboratory period of two hours, so that approximately one-third of the time is given to class work and two-thirds to laboratory work. In view of the fact that most schools are giving only from fifteen to twenty hours to this subject, the plea for fifty or sixty hours will probably be regarded as overwhelming. And yet the truth remains that it is not possible to give in less than sixty hours a course in a science subject having either individual or academic value. Moreover, if the time assigned to a subject be determined by its relative importance, such a hypothesis would give bacteriology and hygiene more than sixty hours. Having compassed sixty hours, we next strive to add another thirty hours for the consideration of special phases of bacteriology, sanitation, and public hygiene. Perhaps the time is not yet ready for the complete realization of this scheme, but that it will surely come under the impetus of the public health movement there can be little doubt.

A course including laboratory practice presupposes laboratory facilities. A well-lighted laboratory, containing stainproof tables with cupboards and drawers, electric connections, running water, gas attachments, stools, a small electric incubator, and an autoclave make up the main furnishings. Additional equipment consists of compound microscopes, with high- and low-power and oil immersion lenses, ideally one for each student, where this is not possible, one for every two or three, test tubes and racks, glass slides and cover slips, Petri dishes, Bunsen burners, moist chambers, fermentation tubes, graduated pipettes, forceps, platinum needles, balsam of Peru, oil, stains, and such additional chemicals as may be necessary. There should be sufficient equipment for ten students. A laboratory section exceeding this number cannot be handled satisfactorily by one instructor. As the laboratory of the training school is generally located in close proximity to the hospital and its laboratories, it would seem that sterile supplies might be obtained from this source. Otherwise such material must be purchased from commercial laboratories. Prepared slides can be bought, if desired, but it seems reasonable to suppose that the instructor could secure the required cultures from the hospital bacteriologist and make the necessary slides.

Two points remain for consideration: the use of text and reference books and the choice of instructor. So far most of the textbooks that have been written on bacteriology for nurses have not been very adequate. Instead of giving basic principles, they too often state complex facts, unintelligible to the beginner. If the well-intentioned writer would keep in mind that the same educational principles apply to the compilation of textbooks for student nurses as for other individuals in the process of learning, a greater degree of success might be attained. This very important item seems to have been frequently overlooked. If for no other reason than this, supplementary reading should be selected with great care.

Other factors, however, enter into the question of a text. Bacteriology and hygiene, both products of the past half century, are passing through the evolutionary stage natural to a new science. What is new today is old tomorrow, and it is unsafe to make a prognosis on the find-

ings of the future. The result of this constantly increasing body of knowledge is what might be expected, an overflowing market of literature in book, magazine, and pamphlet form, some highly commendable and some otherwise.

With such a wealth of material, is it not logical to conclude that the use of one lone text on the teaching of bacteriology and hygiene belongs to the past? The present and future call for a variety of standard reference books and magazines, ample in quality and quantity to meet the needs of the group. Given such a library, the advantages are evident. With the advice and guidance of the instructor the student becomes acquainted with and gets the point of view of a number of authors and so acquires a bigger vision and a broader outlook.

The question of who shall teach bacteriology to nurses has been more or less agitated in recent years. In the past this responsibility has been most generously assumed by some one of the medical staff or the hospital pathologist. Today the teaching of bacteriology seems to be gradually passing into the hands of that comparatively new element in nursing schools, the "trained instructor." This transition has its pros and cons. No subject can be successfully taught by a poorly prepared teacher, and the poorly prepared teacher will herself be the first to realize her own limitations. The nurse instructor who undertakes to teach bacteriology should have had a sound training in the principles of bacteriology and laboratory technic. If her preparation has included botany and zoology, so much the better. Given these advantages, the nurse ought to make an ideal teacher. Having passed through the same mill, she appreciates both the present and future needs of her students. The instructor in this subject is indeed entrusted with a rare opportunity. When it is remembered that to her is accorded the task of rousing the "aseptic conscience," of giving an intellectual vista that clarifies and enriches the daily work, of creating an impress intimately bound up with the health of the people, her privilege will better be conceived.

In closing, I feel that objections will be made to the generality of this paper. Abstractions have been offered where concrete facts were desired. I am thoroughly cognizant of this item. I beg to add that, until nursing schools reach some mutual agreement as to time given the course, preparation of students, uniformity of equipment, requisites of teacher, it is not possible to establish a common form of instruction in bacteriology or in any other subject. At best, only principles can be submitted, leaving to each school the working out of its own salvation. In the much overclouded future, when the utopian dream of those holding near and dear nurse education will perhaps have come true, and all schools have all things, a clearer, more definite scheme for the course can be reached, but for the present the task of each school is to utilize to its fullest capacity such material as it may have and strive and hope for the ideal.

"People who are in charge often seem to have pride in feeling that they will be 'missed,' that no one can understand or carry on their arrangements, their system, books, accounts, etc., but themselves. It seems to me that the pride is rather in carrying on a system, in keeping stores, closets, books, accounts, etc., so that anybody can understand and carry them on, so that in case of absence or illness, one can deliver everything up to others and know that all will go on as usual, and that one shall never be missed."—Florence Nightingale, "Notes on Nursing."



## THE REHABILITATION OF WOUNDED CANADIAN SOLDIERS\*

### Work of the Military Hospitals Commission of Canada in Restoring Functions of Injured Soldiers

[Continued from October issue.]

#### FUNCTIONAL TRAINING

BY EDWARD A. BOTT, Department of Psychology, University of Toronto.

When the announcement was made recently that the trustees of the Massey estate had diverted Hart House, the newest of the University of Toronto group of buildings, to a special work of the Military Hospitals Commission, few realized the importance of the event to the lives of hundreds of Canada's wounded soldiers. There was nothing to convey that the government had here undertaken in behalf of the disabled a work so new and advanced that there is only one laboratory in Canada studying the scientific principle to be applied. Yet such is the case.

A short time ago the executive committee of the Great War Veterans' Association assembled at Ottawa for a conference with government leaders and urged the use in Canada of the Amar apparatus for functional training. They told of the wonderful instances of conquering disabilities achieved in France through the use of the devices and appliances invented by Professor Amar. So little is known even by medical men of functional training that it is not surprising the government officials seen by the veterans were unaware that this very work had already been launched in the Dominion. The Amar apparatus, it is true, is not being used, but the scientific principle on which it was built is being applied by Dr. E. A. Bott, of the University of Toronto's psychological laboratory in the construction of scores of devices which accomplish exactly the same results as Professor Amar's creation.

Just to show what is possible, one of the men who was taken in hand at the university last year was paralyzed from the waist down and walked with two crutches. It took but a few months, working with the Bott apparatus, for this lad to recover the entire use of his limbs. When he left the laboratory he was able to box, wrestle, play football, and perform other feats of athletic prowess with the limbs which a short time before had been helpless.

During the 1916-17 term of the university research work on the subject of functional training was carried on in the psychological laboratory with such successful results upon 16 soldier patients sent from Central Military Convalescent Hospital, College Street, that the Military Hospitals Commission resolved early in the spring to undertake the expansion of the work until as many soldiers

as possible might receive its benefits. Fortunately, the Commission had already decided to concentrate its orthopedic work for the whole Dominion at the former Booth Memorial Home, North Toronto. Lieut.-Col. Vincent Massey had observed the work at the university and was impressed, and in behalf of the Massey estate he offered the use of the million-dollar gymnasium and social center building which his family was erecting in Queen's Park for the students.

Commenced before the war, Hart House, as it is called, has progressed in construction but slowly since 1914, as in its uncompleted state it was suitable for the carrying on of various military training operations. The southern half of the building contains a great number of small rooms, and it is these which make the building so admirably suited to the work of reeducation, as it is correctly termed. It is one of the essentials of the work that each patient be treated separately by apparatus designed to meet his special case, under the guidance of an individual worker.

The soldiers who will benefit by this new treatment are, for the most part, those who have a disability which entails the loss of one or more of the scores of mental and physical processes which go to make up the total activities of the normal human being. The surgical treatment necessary for most of the physical disabilities will be given at the orthopedic hospital and the psychological influences necessary to assist in the removal of the disability will be supplied at Hart House.

Curiously enough, this very scientific and little understood treatment sounds very simple to the unlearned when explained by one of the workers. The principle applied is to call on a man's own voluntary initiative to practice the process subject to disability. This process may be a movement of some limb or other part of the body, or it may be a thought process such as the power of attention, memory, or association, etc. Usually some small measure of the process still remains and a task is set, in the doing of which the patient practices to its upper limit the impaired process. Just as when a father teaches his young son to throw, practice enables the boy to throw farther and farther each time, so does the patient improve and in time usually completely overcomes his handicap. It all sounds so easy that one is tempted to exclaim, "Why did somebody not think of that long ago? Anybody could do that." It is forgotten, however, that only those who have made a study of the subject can enumerate and name the various movements of which the right hand, for instance, is capable. The first step, when a patient is assigned to the reeducation class, is to hold a clinic and ascertain how many processes have been impaired, and the next is to measure the degree of impairment. Sensitivity is a good example. If a hand or a foot is numb and rather helpless, it is important to find out exactly how numb it is in some terms which can be expressed and understood.

Did you ever cross your knees and then tap a certain place just below the knee cap and observe how a very slight blow causes your foot to kick? The distance the foot moves is very indicative of the whole nervous tone of the man, and Dr. Bott has an apparatus which measures accurately the kick in order to find out that very condition. Before the knee is tapped a clasp is fastened to the ankle and a horizontal indicator rests against 0° on a large protractor. When the knee is tapped the horizontal bar moves along the scale and the highest number reached is the term in which the man's nervous tone is measured. Experience has shown what is normal and what is abnormal.

\*This article has been prepared under the auspices of the Military Hospitals Commission of Canada in response to a request from THE MODERN HOSPITAL. Reprinted from The University of Toronto Monthly, April, 1917.



Having obtained all this information about the patient, the worker is then called upon to prescribe for his case.

Very often it is necessary to invent a piece of apparatus which will give the patient the necessary exercise.

The prescription in each case will consist of an exercise which can be performed with the disabled member. The patient will practice the exercise consistently, and, if the treatment is successful, will find it grows easier as time proceeds. Then a little harder one will be set, and the patient will be encouraged to increase the effort day by day until the full process is restored. For instance, if it is a lifting process which is impaired, the original exercise will consist of lifting a weight of which the muscle is capable. When this becomes easy, the weight will be increased, and this graduation will be kept up until the man can lift as much with the formerly disabled member as any normal man could have done. If it is a mental process that is impaired, mental exercises will be set on the same basis. They may be mental arithmetic or tests of memory, association, and so on. In some cases the patient will merely carry on a conversation on some technical subject for half an hour or more in order to practice concentration.

In certain cases it is expected that volunteer workers will be used. These volunteers will have to be taught the essentials of their art very carefully before they can be entrusted with the welfare of a patient, but as they will require more in the way of natural temperamental adaptability than scientific knowledge, this will not be a serious difficulty. The task of selecting suitable volunteers and rejecting the unsuitable will be one for a born diplomat, but the unaccepted will have the consolation of knowing that they tried to do their bit.

The question of scientific workers is also a very difficult one if the department is to be expanded so as to give any large number of soldiers its benefits. There is known to be a limited number of persons in the Dominion with the technical knowledge necessary to undertake responsible positions in the department, and Dr. Bott is at present engaged in correspondence with most of them in an endeavor to bring them together at Hart House. His staff at present consists of only five or six.

The duty of the volunteer workers will be to encourage the patients to persevere. Mechanical devices of a hundred and one different types are being invented day by day to suit all kinds of cases, and each volunteer will be taught the use of one piece of apparatus. It is regarded as essential that each patient should receive the individual and exclusive attention of one worker, as the main duty of the worker is to keep up the patient's interest and enthusiasm.

One of the great advantages of the Amar apparatus is said to be the fact that a graphic record is kept of the movements made in the practice of the assigned exercise. So far, none of Dr. Bott's devices have had this feature, but each has a scale by which the patient can keep track of his progress in recuperation. The instance already mentioned of the method of measuring a man's kick when



Fig. 1. Reeducation work of the Military Hospitals Commission of Canada: the center picture (1) for the work by the Massey Estate donors; the upper right-hand picture (2) shows a device for wrist flexion, with a protractor on which, by means of the indicator above his wrist, the patient measures the amount of movement he has attained; the figure at the lower left (3) shows a device to aid ankle abduction and adduction, the arc being measured in degrees; the lower right-hand picture (4) shows a device to assist wrist torsion. Some form of meter by which the patient can measure his own progress is a feature of nearly all the devices used by Dr. O. A. Bott, who is in charge of this work.

you hit him on the knee illustrates how this is done and it is quite easy to prepare a graphic chart by keeping a daily record of the patient's progress.

Every trick of the trade must be used to encourage the soldier to stay with his treatment, for it is the very essence of this work that the man cure himself. It is the voluntary exercise of the disabled function that restores it, and the worker's duty is merely to keep the man at it. Maintaining a lively interest in the scale which measures the movement is a very successful method.

It will be seen that the nature of the volunteers' duties will require the utmost freshness and spontaneity of spirit. It will not do for a tired man or woman to sit down with a patient and try to arouse his enthusiasm over the humble occupation of wiggling his big toe. It will require a very special kind of cheerful, lively, and concentrated interest on the part of the worker to keep the patient busy for a whole hour at any such task as that; hence it is contemplated that the volunteer workers shall devote not more than one hour a day to their task.

Measurements, competitions, sympathy, encouragement, and all such means must be employed by the workers to cause the patients to take an interest in their tasks, and not the least of the difficulties of Dr. Bott's task is that of making the tasks themselves sufficiently interesting for this to be possible.

Mayor Mitchell, of New York City, laid cornerstones in October for a new home for the Cumberland Street Hospital and for a group of 23 new buildings for Seaview Hospital on Staten Island. The capacity of the Cumberland Street Hospital will be increased from 200 beds to 312 beds, and that of the Seaview Hospital, which cares for city tuberculosis patients, from 763 beds to 1,763 beds.



## What Every Disabled Canadian Soldier Should Know

**THAT** there is no such word as "impossible" in his dictionary.

**THAT** his natural ambition to earn a good living can be fulfilled.

**THAT** he can either get rid of his disability or acquire a new ability to offset it.

**THAT** the whole object of doctors, nurses, and instructors, is to help him in doing that very thing.

**THAT** he must **HELP THEM TO HELP HIM.**

**THAT** he will have the most careful and effectual treatment known to science.

**THAT** interesting and useful **OCCUPATIONS** form a most valuable part of the treatment in Convalescent Hospitals and Sanatoria.

**THAT** if he cannot carry out his first duty by rejoining his comrades at the front, and if there is no light duty for him with the Canadian forces overseas, he is taken home to Canada, as soon as his condition and the shipping facilities make this possible.

**THAT** his strength and earning capacity will be restored there to the highest degree possible, through the Military Hospitals Commission.

**THAT** if he requires an artificial **LIMB** or kindred appliance it will be supplied **FREE.**

**THAT** every man disabled by service will receive a **PENSION** or gratuity in proportion to his disability.

**THAT** his pension cannot be reduced by his undertaking work or perfecting himself in some form of industry.

**THAT** his pay and allowances continue till he is cured or till his pension begins.

**THAT** an extra three months' pay, field pay, and separation allowance when there are dependents receiving such allowance, will be paid to all men returned from overseas and honorably discharged after at least six months' service—with certain exceptions, such as members of the permanent Force and Federal or Provincial Civil Service who can step right back into their old positions.

**THAT** if his disability prevents him from returning to his old work he will receive **FREE TRAINING** for a new occupation.

**THAT** full consideration is given to his own capacity and desires when a new occupation has to be chosen.

**THAT** his own will-power and determination **WILL ENABLE HIM TO SUCCEED**, both in the training and in the occupation afterwards.

**THAT** his **MAINTENANCE** and that of his family will be paid for during the training he may receive after discharge, and for a month longer.

**THAT** neither his treatment nor his training will cost him a cent.

**THAT** his home Province has a special Commission to assist him in **FINDING EMPLOYMENT** on discharge.

**THAT** hundreds of towns and villages have committees, associations and clubs to welcome him on arrival, and to help in securing a position for him.

**THAT** the Dominion and Provincial Governments, the Municipal authorities, and all sorts of employers, give the returned soldier **PREFERENCE** in filling vacant positions.

**THAT** the returned soldier wishing to **TAKE UP LAND** and farm it, will be helped to do so, under Federal and other settlement schemes.

**THAT** the Military Hospitals Commission exists to carry out his restoration and training in Canada.

**THAT** the Board of Pension Commissioners exists to distribute the pensions provided by his country for him and his dependents.

**THAT** the Military Hospitals Commission and the Board of Pension Commissioners are in the position of **TRUSTEES, APPOINTED FOR HIS BENEFIT** and representing the whole people of Canada.

**THAT**, therefore, he should write direct to the Commission or the Board if he needs advice or help.

Canadians are unanimously resolved that every returned soldier shall have a full opportunity to succeed. When that opportunity is put within his reach, his success will depend on his own good sense in seizing and using it.

MILITARY HOSPITALS COMMISSION, 22 VITTORIA STREET, OTTAWA  
BOARD OF PENSION COMMISSIONERS, UNION BANK BUILDING, OTTAWA

Fig. 2. Poster issued by the Military Hospitals Commission of Canada.



## NOTES ON BRITISH MILITARY MEDICAL ARRANGEMENTS

## Work in the Restoration and Reeducation of Disabled Soldiers—Treatment of Cases of Heart Disease

BY A RETIRED ARMY SURGEON.

[Continued from October issue.]

## CASES OF NEURASTHENIA AND MENTAL SHOCK

From the commencement of the war a considerable number of cases of nervous or mental breakdown, due either to the shock, or to the continuance of fatigue and exposure, have arrived in England from the various fields of action. There have been three main groups of cases, as pointed out by Lieut.-Colonel W. A. Turner: first, those due to bursting of high explosive shells near the patient, or burial under debris due to such explosion; second, the cases due to general exhaustion of the nervous system from long continued physical and mental strain, sleeplessness, etc.; third, the more chronic cases of mental breakdown, melancholia, and mania. These nervous cases became so numerous that a special inquiry was made into the best means for dealing with the emergency. Two clearing hospitals were established. All "neurological" cases diagnosed as such at

continue, or become more serious, he is sent to one of the special hospitals for this class of cases. There are three in Great Britain, one at Maghull, in Lancashire, for the Northern and Western Commands; one at Springfield for the Aldershot, Eastern and Southern Commands; and the Royal Victoria Hospital, Edinburgh, for the Scottish Command. Patients in Ireland are transferred to the King George V Hospital in Dublin.

The neurological section of the Fourth London General Hospital contains 400 beds; it has a special department, known as the Maudsley Hospital, for the care of soldiers suffering from traumatic neurasthenia, hysteria, and the milder psychoses. The similar section at Netley consists of a hundred beds in several wards of the main building. In these hospitals are treated all cases of nervous breakdown and debility, neurasthenia, depression, functional paralysis, etc. Rest, feeding, massage, electricity, baths, and some simple psychotherapy in the way of suggestion and hypnosis, are the measures generally adopted. At the Fourth London Hospital about 40 percent of the cases return to light duty, 20 percent are invalided, and 20 percent are transferred to other institutions for further treatment. The accommodation at the Maghull and Springfield Hospi-

tals together amounts to about 550 beds; the general lines of treatment are rest, feeding, recreation, and, in suitable cases, massage. From the Maghull Hospital about 40 percent of the cases return to light duty. The patients transferred to Napsbury are of a certifiable type, including most of the graver forms of mental disorder, mania, melancholia, general paralysis, epilepsy with mental symptoms, etc. None are actually certified as of unsound mind, but all cases of general paralysis and of epilepsy with insanity, and all patients who had been in asylums previous to enlistment, are discharged to asylums. From 10 to 15 percent are discharged to light duty.

In the Royal Navy these cases of nervous breakdown have been treated by specially qualified medi-

cal officers in the wards of the larger general hospitals, the patients not being aggregated together, but dispersed as much as possible among ordinary cases of wounds or illness.

## ST. JOHN AMBULANCE ASSOCIATION HOSPITAL, SOUTHPORT

An exceedingly complete and well-organized hospital has been established by the St. John's Ambulance Association at Southport, in Lancashire. It is situated in the extensive grounds of two adjoining mansions, and is arranged on the lines of the First Eastern General Hospital, at Cambridge, but, being within the area of the Western Command, is connected with the First Western General Hospital at Fazakerly, near Liverpool. There are eight blocks, connected by covered ways (Figs. 1 and 2). Each consists of a ward with 60 beds, together with nurses' room and kitchen, opening onto a corridor at the end, across which are a sanitary block, with lavatory and bathroom, and nurses' sanitary room for storing bed-pans, etc. The ward walls are open to within 2 feet of the floor on



Fig. 1. A ward in the St. John Ambulance Association Hospital, Southport, England. Note the open sides.

the British clearing hospitals overseas were transferred to the Fourth London Territorial General Hospital, Neurological Section; here they underwent a probationary course of treatment, which eventuated in one of three ways: (1) a large number recovered within a short time, and returned to light duty; (2) the most serious cases were transferred to one of the special hospitals for nervous cases at Springfield or Maghull; (3) cases becoming insane were transferred to Netley Hospital, D Block, or to the Napsbury Hospital for such cases, near St. Albans. The other clearing hospital was the D Block at Netley, to which were transferred all cases of acute mental disorder occurring overseas; after a period of observation, these were either transferred to Springfield or Maghull for special care as nervous cases, or to Napsbury, if certifiable for asylum treatment. At all territorial general hospitals a neurological section was established; if the patient's symptoms are slight, or improve quickly under treatment, he is sent on furlough for a longer or shorter time, and then returned to light duty; if, on the other hand, the symptoms

the southwest side, but windows and shutters are provided alternately on lift-off hinges, as a protection against rain. There is also an opening 9 inches in depth under the eaves on each side, also an opening under the gables at each end, for use when the sides have to be closed on account of bad weather. Patients on arrival are stripped in a well-heated undressing room, bathed, provided with hospital clothing in a special dressing room, and then taken to the wards. Their clothing is also thoroughly disinfected by dry heat. The operating theater, in its arrangements, fittings, and equipment is up to the standard



Fig. 2. Interior of a ward in the St. John Ambulance Association Hospital.

of the best metropolitan general hospitals (Fig. 3). All the kitchen accommodation, nursing quarters, linen stores, etc., are on a most complete scale. Trains bring the wounded direct to the hospital from Southampton, and besides this a considerable number of patients are admitted from the troops stationed in the town. One department has been specially allotted to cases of enteric fever and dysentery, with a thoroughly well-equipped bacteriological laboratory; there are also x-ray and electrical departments. The management of the hospital is vested in a council representative of the different interests concerned; three voluntary and brigade divisions of the St. John Association work together. The nursing staff consists of a matron with thirty-four trained nurses, assisted by members of the voluntary aid detachments (V. A. D.) of the St. John Association. The total cost of the buildings and equipment was £12,000, raised by public subscription; the maintenance charges are met by a War Office grant at a fixed rate per patient per day; to this sum liberal additions are made by the townspeople of Southport.

It may be mentioned here that the St. John Ambulance Association is under the control of the Order of St. John of Jerusalem, and constitutes the chief philanthropic work of that body. An ophthalmic hospital is supported by the

order in Jerusalem, which is of immense benefit to the native population of that city and the neighboring ports of Palestine. The members of the association are also busily engaged in attending to accidents and casualties of all kinds that may occur on occasions of public processions, or large gatherings of the people for any purpose, in the metropolis or elsewhere. The order originated about 1048, in a hospital dedicated at Jerusalem to St. John the Baptist and provided by some merchants of the city of Amalfi, at that time one of the most important seafaring and mercantile communities in Southern Italy. The order subsequently became military as well as religious, and established hospices in Rhodes, Malta, and elsewhere. Of late years it has shown much activity in England in establishing the Red Cross Society and an efficient system of ambulance aid, as just stated. Its headquarters are at St. John's Gate, Clerkenwell, a very interesting relic of medieval London, unknown to the majority of citizens, but with many associations with the history and literature of the country.

[To be continued.]

#### The Last Word in Motor Ambulances

Even the modern motor ambulance cannot be said to have met all the needs of the war, remarks *The Hospital* of London. Serious cases require special conditions of

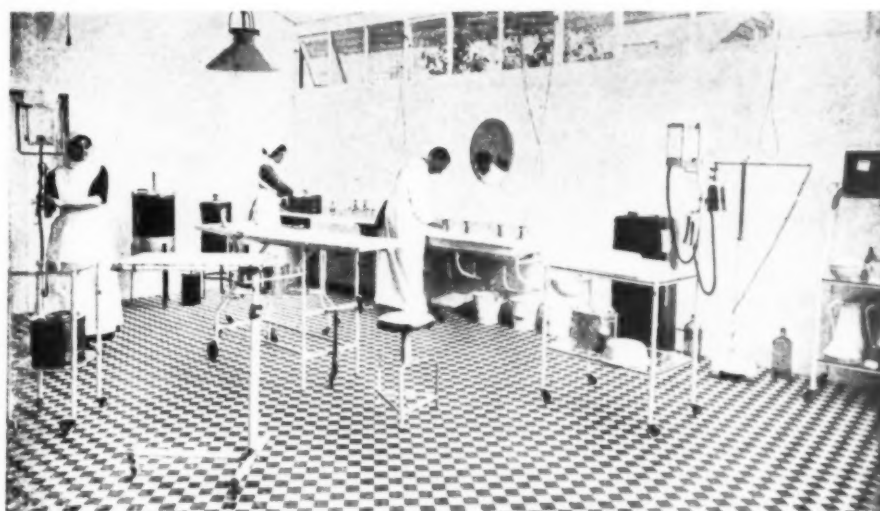


Fig. 3. Operation theater in the St. John Ambulance Association Hospital.

comfort, temperature, and silence, which have not been provided hitherto. New types of ambulance have been designed to meet this need by the motor ambulance department of the British Joint War Committee. One type is a single-bedded ambulance, with a light body, folding doors, and an electric heating installation. It is made so that a patient may be carried in it in comparative comfort for a considerable distance. The second is for two beds, in form similar to berths, fitted with electric warmers, and built with duplex panels, with an insulating medium between, so to make them sound-proof. Heating-pipes in parallel rows under each bed are warmed to the desired degree by ad-



mitting a part or all of the exhaust gases from the engine. The windows are also duplex, and the ventilation appears to be artificial. Trials oversea are being made to test their value, when it will be seen if they enable serious cases to be removed by road under such conditions of quiet and temperature as are essential to their comfort. The new types are more like wards on wheels than anything which has yet been attempted in a motor ambulance.

\* \* \* \*

#### HOW A STATE HOSPITAL HELPS UNCLE SAM

##### Crippled and Aged Patients Employed in War Relief Work—Thousands of Garments Contributed to War Sufferers by Taunton State Hospital

BY REBA G. CAMERON, R. N., Superintendent of Nurses and Occupational Director Taunton State Hospital, Taunton, Mass.

Today, when the greater part of the world is at war, the word "army" is a common phrase. We speak of the armies fighting in Europe, and in this country the army we are mobilizing should be a source of pride to every loyal American. Let me call your attention to another army of the United States—one that society ranks among the class of dependents, namely, the vast army of unfortunates who comprise the population of our state hospitals and sanatoriums all over the country. The men and women who, "for the large" part, are public charges can be utilized now if never before in helping along the armies on the battlefields of France and Belgium.

For many years the Taunton State Hospital, with a capacity of thirteen hundred beds, has recognized occupa-



Fig. 1. Male patients knitting socks for soldiers on hand knitting machines.

tion as a valuable remedial agent. Previously, the patients in our hospital have been given work for the therapeutic effect, the value of which cannot be questioned. At the beginning of the present great conflict, which has swept along until three-quarters of the world is involved, we wondered if our patients might not be of service in helping along the cause of justice and right. This state, which supports our institutions, could not be expected to contribute material for our purposes, but if the employees of the hospital would furnish the necessary funds, the patients could be taught to make up war supplies. With the hearty cooperation of our medical superintendent, Dr. Arthur V. Goss, a society was formed, consisting of the staff, nurses, and employees, and each one pledged himself to contribute a small sum monthly as long as the war lasted.

Today, after three years of the war, the work has assumed such proportions that it is distinctly a new department in our hospital and one that gives promise of continuing until the war is at an end. The funds of the society are spent in buying material, and this is made up by

the patients under the supervision of the nurses in charge of the wards.

During the first year of the war we made large numbers of women's and children's garments for the destitute Belgians, and it is a noteworthy fact that the first little child's dress (a simple flannel gown for a child of four years), was made up on one of our disturbed wards by a male patient, and no apprentice of Worth or Paquin was ever more proud of the result of his labor than this patient. From that time until the present the men and women have worked valiantly and have made thousands of garments for the soldiers, consisting principally of pajamas, sol-



Fig. 2. Women patients making soldiers' supplies.

diers' work shirts, and knitted socks. Special mention must be made of two men patients who work constantly making socks on hand knitting machines. They are both crippled, each having a leg amputated above the knee. They are intensely patriotic, and certainly they are "doing their bit" faithfully and well. Every day, with the exception of Sunday, they may be seen busily working their machines, and each evening they turn in the day's work, consisting of from seven to nine pairs of socks, all completed. These two men alone can make approximately two hundred pairs of socks in one month. Indeed, they used so much yarn that the funds of the society decreased so rapidly that I made application to the local chapter of the



Fig. 3. This colored man says he thinks he would make a good soldier, but he knows he can make a good shirt.

Red Cross, and that society, realizing the tremendous amount of work that these men were turning out, unanimously voted to keep them supplied with wool, and for some time the yarn has been contributed by the Red Cross society. Six old ladies, not one of them under seventy, and all on the same ward, have a little knitting society of their own. The leader of this little band is an old Irish lady, very deaf and unable to walk a step, yet she can do two things, namely, knit and talk, and, incidentally, she does both well. She keeps several of her band knitting

only legs of socks and she turns the heels herself, for, she says, "Faith, and the heels and toes some women o' today turn out are enough to cripple the soldier boys for life without the aid of a German bullet."

I have been asked if disturbed patients are of any help in the relief work. In reply I would like to cite one instance which occurred a few months ago. I was going through a disturbed ward carrying some large sheets of white cardboard, a small brush, and a bottle of ink, on my way to get some patriotic posters printed. I was stopped by an excited manic case with these words, "Miss Cameron, did you ever see me print? Let me try!" Out of curiosity I gave him the materials and sat down to watch him. Although he was in an acute stage, with a rapid flight of ideas, this did not hinder him from doing some excellent work on the patriotic posters, and for two hours he worked steadily and begged to be allowed to do more the next day. Patients of all classes have contributed their aid in helping along the work, and we have donated over seven thousand garments to the war sufferers, composed largely of shirts, women's and children's garments, hospital pajamas, and knitted socks, made up,

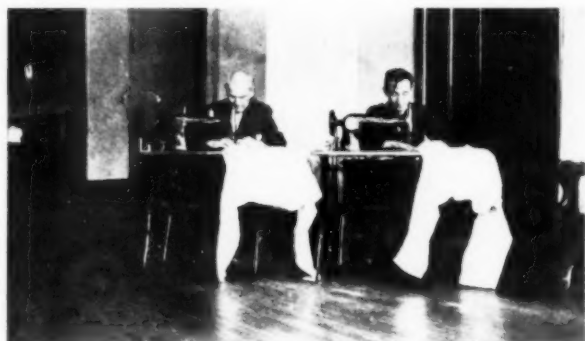


Fig. 4. The elderly men patients, as well as the young men, take an interest in making shirts for Uncle Sam's army.

for the most part, by patients who gave their services voluntarily, and their attitude was one of thankfulness that they could be of some service to their country.

At the present time we are planning to convert one of our large wards into a war relief center, where the largest part of the work will be done. Every afternoon patients from all over the hospital who wish to work for the war will be brought to this ward for two or three hours. Several sewing machines, a cutting table, supplies, etc., will be there, and the work will be cut out, made up, and packed, ready for delivery. One afternoon each week we will serve tea or cocoa and cakes, and before long we anticipate that this will be the most popular ward in our hospital.

It has been demonstrated beyond a doubt that the so-called dependents in our hospital have been of inestimable value since the war began. They are "doing their bit," even though confined in a state hospital.

In previous articles I have dwelt on the economic side of occupation, as well as the therapeutic effect on the individual, and I am more convinced than ever that occupational therapy is destined to play a more important part in the future than ever before. The reason for this is obvious. If the war continues it will not be long before this country will be flooded with cripples and disabled men, and it will be somebody's business to see that these men are taught crafts suitable for their particular needs. Oh, yes, a pension is all very well for the man who has both legs

shot off—he surely deserves it—yet a pension plus the knowledge of how to fill in the long years ahead of him with useful work will be better still.

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#### SOME WAR BOOKS

##### Medical Diseases of the War—Sanitation for Soldiers—Impressions of an American Red Cross Volunteer in France—Letters from the Edith Cavell Nurse of Massachusetts

From among the innumerable books about the war now issuing in a seemingly inexhaustible stream from the press, we have selected for comment here this month four as of special interest to readers of THE MODERN HOSPITAL.

The author of "Medical Diseases of the War," Major Arthur F. Hurst, is better known under his former name of Hertz. English by birth and descent for several generations, he is one of those who have been led to discard a German name in the present crisis. Early in the war Major Hurst was physician and neurologist to a number of military hospitals in London and to the New Zealand Hospital at Walton-on-Thames; later he was appointed a member of the Medical Advisory Committee for the Prevention of Epidemic Disease in the Mediterranean Expeditionary Force in Lemnos; subsequently he acted as consulting physician to the British forces at Salonica. He is now in charge of the neurological section at Netley. His book, based on this wide experience, is a record of his own observations amplified by a study of the literature so far as time and opportunity have allowed. He discusses functional, nervous disorders, amebic, bacillary, flagellate, and ciliate dysentery, amebic hepatitis and hepatic abscess, trench fevers, paratyphoid fever, epidemic jaundice, a form of beri-beri occurring among British troops, soldier's heart, war nephritis, and gas-poisoning. Major Hurst's exceptional facilities for the study of these conditions have enabled him to write a book which medical men on active service will be likely to find of great value.

The next book on our list is addressed not to medical men, but to the soldiers themselves. In a tiny pamphlet which can easily be slipped into a corner of the soldier's knapsack, Lieut.-Colonel H. R. Kenwood takes up the elements of camp sanitation and of personal hygiene as applied to the soldier.

The two remaining volumes are records of experiences at the front. Both are by Americans.

"The Aftermath of Battle," by Edward D. Toland, is a narrative of a volunteer worker with the Red Cross at the battle front. Mr. Toland, a Princeton graduate of 1908, who had been in the banking business for two years preceding 1914, found himself with nothing to do when the bank shut down temporarily at the outbreak of the war. Adventure called; he crossed the Atlantic in the steerage, arriving in France just after the end of the battle of the Marne, and immediately went into service. Chaos still reigned in French military hospitals; official red tape and unofficial disorganization, inefficiency, and lack of discipline doubled and trebled the horrors of the battle aftermath. Later he records improvement in these respects. He gives a vivid though fragmentary picture of that strange life in which death and horrible mutilations are reduced to commonplace.

The last book on the list is a collection of letters from the Edith Cavell Nurse from Massachusetts, Miss Alice F. L. Fitzgerald, to which is appended an account of the imprisonment, trial, and death of Edith Cavell. At a



memorial service in honor of Edith Cavell, held in Boston at the end of 1915, it was decided to offer an "Edith Cavell Nurse from Massachusetts" to the English government to serve with the British expeditionary force in France for the duration of the war. The royalties from the little book to go to the support of the Edith Cavell Nurse in France.

**Medical Diseases of the War.** By Arthur F. Hurst, M. A., M. D. (Oxon.), F. R. C. P., Temporary Major R. A. M. C.; Physician and Neurologist to Guy's Hospital; Neurologist to the Royal Victoria Hospital, Netley; Lately Member of the Medical Advisory Committee, Mediterranean Expeditionary Force, and Consulting Physician to the Salonica Army. Second impression. Pp. 151. Cloth, price \$1.75. Edward Arnold, London, 1917.

**Health in the Camp. A Talk to Soldiers.** By H. R. Kenwood, Temporary Lieutenant-Colonel R. A. M. C.; Professor of Hygiene and Public Health in the University of London, etc. Pp. 58. Paper, price 15 cents. The MacMillan Company of Canada, Ltd., Toronto, 1916.

**The Aftermath of Battle.** With the Red Cross in France. By Edward D. Toland, with a preface by Owen Wister. Pp. 175, with illustrations. Cloth, price \$1. The MacMillan Company, New York, 1916.

**The Edith Cavell Nurse from Massachusetts.** A record of One Year's Personal Service With the British Expeditionary force in France, Boulogne-The Somme, 1916-1917. With an Account of the Imprisonment, Trial, and Death of Edith Cavell. Pp. 95. Boards, price 60 cents. W. A. Butterfield, 59 Bromfield street, Boston.

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#### THE CARE OF SOLDIERS' DEPENDENTS

##### Various Sources of Assistance for Dependents of Enlisted Men in Canada—Benefits Include Assigned Pay, Separation Allowance, Life Insurance, and a Special Fund

The Children's Bureau has issued a report on the care of dependents of enlisted men in Canada, which is particularly timely, as this problem will soon become one of immediate importance in this country. The plans adopted by belligerent nations in Europe are interesting, but hardly applicable to this country on account of different standards of living. In Canada, however, the situation is more nearly comparable to our own. The assistance extended by the Canadian government comes under two general classes, namely, pensions payable while in service and pensions payable after discharge. The dependents of an enlisted man may receive assistance from four sources. These are:

1. Assigned pay. Enlisted men are required to assign at least one-half of their pay (not including field allowance) at the time of their enlistment, and are permitted to assign not more than twenty days' pay. Officers are not required to assign any definite amount.

2. Separation allowance granted by the Canadian government to dependents of volunteers. This varies from \$20 a month for privates to \$60 a month for lieutenant-colonels. No allowance is made for children in this arrangement.

3. Life insurance. In certain localities in Canada, families of enlisted men are protected by life insurance, the premiums of which are paid by the municipalities in which the volunteers resided at the time of their enlistment. The policies in most cases have been issued by insurance companies located in the United States. In Toronto, however, three-fourths of the insurance is being carried by the city of Toronto itself, a \$2,000,000 bond issue having been floated for this purpose. Every officer and enlisted man residing in Toronto at the time of entering the service has,

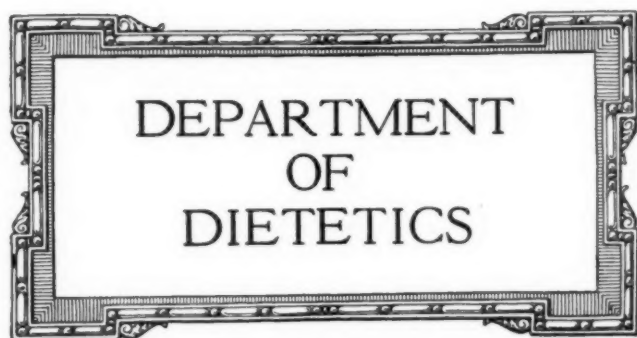
from the date of his enlistment, a life insurance policy for \$1,000.

4. The Canadian Patriotic Fund, incorporated. This fund, organized in 1914, renders assistance to families in need whose income from all sources is insufficient for their needs. The resources of the fund are derived from volunteer contributions and from grants made by the provinces as well as cities and counties.

Applying these various means of relief to a specific case, the wife of a private having three children between the ages of 10 and 15 would receive the following sums monthly: assigned pay of a private, \$15; separation allowance, \$20; Canadian Patriotic Fund, \$25; total, \$60. From September 1, 1914, to April 20, 1917, nearly \$17,000,000 was dispensed to soldiers' dependents, while over \$6,000,000 was on hand for further distribution. Benefits payable after discharge include pensions in case of disabled men, and payments during reeducation and preparation for self-support. Pensions range from \$480 a year for enlisted men, to \$2,700 a year for brigadier-generals, there being six classes of disability ranging from 20 to 100 percent. In case the soldier is killed or dies as the result of injuries received or disease contracted in active service, the widow is entitled to a pension and an allowance for children. This amounts to nearly as much as the pension for total disabilities, the allowance for the widows of all men below the rank of petty officers being \$432 a year, with \$66 additional for each child, that of the widow of a commodore or brigadier-general being \$2,430 a year, with an allowance of \$108 for each child.

Much is being done to fit disabled and incapacitated soldiers for self-support. A military hospitals commission has been organized, which sees to it that the disabled soldiers go to the hospital home or sanatorium which will give them the most efficient treatment and restore them to the most complete condition of health possible. [An account of the work of the Military Hospitals Commission of Canada, kindly furnished by the officials of that organization, appears in this issue.] While under the supervision of the hospitals commission, the soldier receives his regular pay and his family receives all allowances, he being regarded as still in active service. On being discharged from the hospital and the service, he is passed on to the board of pension commissioners, and the first pension installments is paid him on the day that he is discharged. In each district a vocational officer keeps track of the discharged man. If it is found necessary to teach him a new trade, a course of instruction is outlined for him. While taking this course he receives a pension, an allowance of \$8 a month by the commission, his maintenance at one of its institutions or an allowance of a dollar a day if he lives at home, with a further allowance to his wife of the difference between the \$35 a month and the pension paid to her husband. Allowances are also made for children at different ages, the whole forming a maximum of \$55 a month for the wife and children and which, with the \$1 a day maintenance allowance and the \$8 from the commission, gives the family a total monthly income of \$93. The pamphlet issued by the Children's Bureau also contains in the appendix pay and allowance tables, reports of the board of control of Toronto on insurance, the act incorporating the Canadian Patriotic Fund, and numerous other laws, ordinances, tables, and blanks of use in studying this subject.

The Bainbridge Hospital, Bainbridge, Ga., moved into a new \$80,000 fireproof building October 1. The hospital is owned by Dr. A. E. Alford.



Conducted by MISS LULU GRAVES.

Dietitian of Lakeside Hospital, Cleveland, Ohio.

Please address items of news and inquiries regarding Department of Dietetics to the editor of this department, Lakeside Hospital, Cleveland, O.

Mrs. Clara Pressler, of Cincinnati, O., offers us another example in proof of the statement so frequently made in this department, that intelligence, judgment, and executive ability are just as essential in the business of feeding people as they are in any other business.

Mrs. Pressler's large number of patrons in two restaurants give ample evidence of the satisfactory way in which she manages her business, though she is still a very young woman.

W. W. Major says of her in the October number of the *American Magazine*:

"Mrs. Pressler looks at her business as a mission of mercy. She knows that everyone who enters her restaurant for a hurried meal has more or less trouble, and she feels that if she can bring a little sunshine into the lives of her patrons by well-cooked, well-served meals, she is doing her bit to make the world a little better. She knows that many of her patrons have no home life, and so she tries to create an atmosphere among her employees and customers that will make them all feel a little happier, a little more content with life. And she has succeeded, not only in her business, but in her theory."

Think what it would mean to many other thousands of people who are being fed in our institutions if every hospital had a dietitian with a theory similar to that of Mrs. Pressler! The daily routine of hospital life brings with it many troubles, fully as varied and numerous as those of restaurant patrons. The meal hour usually affords the opportunity for repeating and discussing all the unpleasant happenings of the day. It naturally follows that in such an atmosphere of criticism the food will "get all that is coming to it" if there be any cause for complaint. But if the dietitian "can bring a little sunshine into the lives of her patrons by well-cooked, well-served meals, she is doing her bit to make the world a little better." Very few people in the hospital have any home life; it is not possible to feed large numbers of people, however, with food which has the flavor of "home cooking." It is frequently impossible to serve the food in a way which has any semblance to home service; so here, too, is the place to "create an atmosphere" that may counteract the feeling of discontent or criticism brought into the dining room from the daily task.

In many hospitals the position of the dietitian is not such that she can bring this about by her own efforts, but with proper cooperation between the dietary department and the training school it can be accomplished.

At the meeting of the American Hospital Association recently held in Cleveland, discussions of the dietary department and the dietitian indicated that there is rapidly developing a strong tendency toward the well-trained woman in charge of the dietary department. This is open-

ing a big field to the trained woman, and greatly increasing the efficiency of the institution, if she is given authority to carry out her plans. But it is an injustice to the dietitian and to the hospital to put her in a position with so much responsibility that she sinks clear out of sight, then never give her a helping hand.

#### Responsibility of a Superintendent for Correct Dietary

BY FLORENCE A. BLANCHFIELD, Bellevue, Pa.

It is related that Bronson Alcott, the father of Louisa M. Alcott, was a great advocate of the vegetarian diet. On one occasion he was expounding to the famous Carlyle his theory that people tend to become like what they eat. "For example," he said, "if one lives on pork he becomes hoggish; if he lives on beef he becomes ox-like; if he lives on mutton he becomes sheep-like; and so on."

"Yes," said Carlyle, slowly, "but don't you think, Mr. Alcott, that if a man lives altogether on vegetables he is in danger of becoming pretty small potatoes?"

In spite of Carlyle's witty reply, science is proving to us that our diet is a matter of supreme importance; it does make a difference what we eat, and even the best of foods may be taken in the wrong quantities and combinations. One authority observes that the average American meal contains combinations of food capable of forming a chemical reaction in our stomachs almost violent enough to blow a glass retort into bits.

No competent institutional employee, particularly in a hospital, would be guilty of feeding to those in her charge actually dangerous combinations of food. But our responsibility—and, of course, this responsibility devolves in the last analysis upon the superintendent—does not end here. We must be sure that the diet of those under our care is correctly balanced, as well as entirely safe. A diet consisting almost entirely of starches may form no dangerous compounds in the process of digestion, but the lack of other necessary elements will prove harmful in the long run.

The superintendent's responsibility for a correct dietary will vary according to the size of the institution and the competence of employees. But in all cases there is a responsibility of some sort. If a mistake is made, the superintendent cannot absolve herself of blame by saying: "The employee did not understand her business." It is the place of the institutional head to see that the employee does understand her business—or, if there is any doubt, carefully to supervise details of her work. This is a heavy contract. It would almost seem that the superintendent, to keep well in hand all the details for which she is responsible and to prevent errors, would have to be omniscient. And that is just what she must endeavor to be.

Though a specialist may be in direct charge of the diet kitchen, though physicians prescribe for the patients, and though the nurses are given special training in the principles of feeding in health and disease, the superintendent will receive many delicate questions for settlement from the heads of departments. She must be prepared to give an instant, well-judged decision. It is ability to make quick decisions that determines the executive, and knowledge of the subject is the foundation of such ability.

Remembering this, the head of a hospital will herself keep up with the latest discoveries concerning diet in disease, the importance of which has long been recognized.

Even though the physician may lay down rigid rules for a patient's diet, there is usually some leeway for the judgment of the nurse or the idiosyncrasies of the indi-



vidual. A patient in a certain hospital was asked by the nurse:

"Is this beef too rare for you, Mrs. Simpkins?"

"Well, since you ask me," said the patient, "I *would* like it a little oftener."

It is to be hoped that the good lady had her wish granted, but the story leaves this important point unsettled. Seriously, it is wise for the superintendent to instruct nurses to humor the patients' preferences as much as possible within the limitations prescribed. The effect of foods upon the patient should be observed, and those which do not agree with him or her should be sparingly used. If any recommended article of food disagrees, it is better to reduce the quantity of it than to cut it out of the dietary altogether. The physician expects—and should have—implicit obedience to his instructions; but intelligent obedience is always preferable to blind obedience.

Except in certain disorders, such, for example, as diabetes, in which carbohydrates must be eliminated, or gout, in which uric acid-yielding substances are avoided, the purpose of feeding is to build up the patient's general constitution—to supply muscular and other power for the work which the body is required to do, to furnish heat, to form the tissues and fluids of the body, and to repair its wastes.

If the diet is to perform these functions properly, it must be well balanced. The instinctive cravings of the palate are not always a sure guide. Many people—especially those who come within the jurisdiction of a hospital—have corrupted this natural guide. A scientific study of the needs of the body, of foods and their combinations, is necessary for one who would provide a well-balanced diet. The subject is of many ramifications. The number of calories required for the maintenance of the human body; the proportions of protein, fat, and carbohydrates necessary for maintaining the organism under various conditions; the constitution of the various foods, their correct preparation, their coefficients of digestibility, and the most efficient combinations of foods, should be understood. Tables covering these subjects are available and should be carefully mastered. But the theoretical knowledge gained by the student should be constantly modified and supplemented by observation of particular cases.

An illustration of the advance in human knowledge concerning nutrition is found in the developments of the present war. The problem of rationing is being handled now by the government food commissions from the point of view of the newer school of dietetics. In Germany, the first country to realize the pinch of necessity, a scientific diet has been prescribed for an entire nation. War cookbooks have been issued by the million and adapted to the needs of the various parts of the empire. German food reports discuss the ration in terms of calories instead of pounds and tons. Food control, based upon this scientific rationing, is the measure which has chiefly enabled that nation to hold out against a world of enemies. It is significant that, in spite of the very much reduced quantity of food, the people are—according to seemingly well-founded reports—on the whole healthier and better nourished than they were before the war. This is the result of eating, as nearly as possible, according to scientific rules.

It is an axiom that the better-fed nation will win a war. If it is worth the while of a national government to exercise careful supervision over the ration of its people, how much more definite is the responsibility for a correct dietary in hospital administration.

One phase of this subject which should not be overlooked is that the superintendent's responsibility does not end with the supervision of what the patients eat. The well-being of the nurses is a matter of equal importance. A great general has said that an army travels on its stomach—meaning that rationing was the question of supreme importance in giving men the courage and endurance necessary for efficiency in battle. Similarly, a properly nourished corps of nurses is essential in the vigilant war waged by the hospital against disease. It is a strange fact that nurses who understand thoroughly how to feed properly the patients under their charge, in many cases seek for themselves the most unwholesome diets—pastry, candy, and foods that stimulate rather than nourish. Thereby they lower their own endurance and power of resisting disease. The administrator is especially responsible for the well-being of the nurses under her charge, and one way to insure this well-being is to see that their diet is healthful and nourishing.

In the present time of stress there is an even further responsibility—that of food conservation. Public and semi-public institutions should take the lead in the great crusade that is being waged against waste. Those in charge of the diet kitchen should be given special cautions and instructions, if necessary, in the economical employment of food materials. The feeding of large numbers of people permits of greater opportunity for carelessness and waste than occurs in the ordinary household; but there is also greater opportunity for close calculation and saving. Let our hospitals "do their bit" in helping the nation to fight the internal enemy of waste.

### Conservation of Food

BY DR. J. A. WESENER and GEORGE L. TELLER, of The Columbus Laboratories, Chicago.

[Continued from October issue.]

Accepting, then, the very apparent fact that the fibrous matter of whole wheat and graham flours is a detriment to human foods rather than an improvement, we must look to other principles for an explanation of the acknowledged benefits which are clearly derived in many instances from such foods.

A study of the development of the wheat grain shows us that in the earliest stages of its formation, before the more starchy portions are built up and the flouring parts of the grain are formed, we have a superabundance of materials present which do not enter into wheat flour in any considerable proportion. These same parts, or parts of a similar nature, are contained both in the bran and in the germ of the grain, which in the natural course of milling find their way into the offal and not into the flour. They consist of an abundance of mineral salts, of amino bodies, which latter are partially built up proteins, and of bodies of a fatty nature.

As to the importance of mineral salts in human food, there can be no question. The most abundant of these salts in the wheat grain are the phosphates, but there are others of lesser amount which are invariably present, although some of them are in such minute quantities that they are scarcely revealed in the ordinary methods of mineral analyses. At least some of these tend to segregate themselves in the wheat grain and are deposited in the outer parts, so that we find a somewhat marked difference in the makeup of the ash as it is obtained from the bran, from the germ, and from the flour. Plants growing upon different soils take from the soil mineral materials which those soils contain, whatever their nature may be.

These ash elements are often looked upon as wholly accidental from the standpoint of the growing plant, but that they have a value or an influence upon the animal body consuming them, there can be little doubt. Such elements are manganese, iodine, fluorine, and perhaps others. Even arsenic, when carefully sought for, has been found to be a general constituent of animal bodies and presumably has an influence upon their development. Copper is present and adds luster to the plumage of the dove.

Many of these mineral elements are brought to the body through other foods when a mixed diet is provided, so that the consumption of flour and other refined products of grains does not restrict their supply to a detrimental extent if sufficient variety is given to the diet. On the other hand, if these elements are not supplied from some source, evidence of malnutrition and even of a diseased condition of the body becomes apparent.

The amino bodies of vegetable products consist of partially built-up or partially broken-down proteins. A study of the composition of parts of growing vegetables at different times of growth enables us to follow readily these changes. Protein, which in the leaf of the grain is clearly identified as such in the earlier stages of growth, disappears from the leaf and is transferred to the seed after being first changed from protein to amide, and again presents itself as protein in the seed by being changed from amide to protein. Amide is abundant in the young and immature wheat grain when it begins its formation, but steadily decreases in amount as the grain ripens. It is also distinctly more abundant in the wheat bran and in the wheat germ than in the interior of the grain, which is converted into white flour. Amides of the wheat grain consist of two or three different bodies which have been isolated, and it is probable that others exist, at least in minute quantities, which have not been isolated. There are abundant possibilities of the presence of bodies closely related to amides which have not as yet been separated, but which have nutritional value in our food. Proteins of different plants and parts of plants, when split up by proper means, yield different amides or amino acids, and various proportions of different amino acids, and investigators are finding that there is a relation between the composition of individual proteins as shown in this manner and their use as a food for the body. The fats, too, are relatively more abundant in the bran and in the germ than in the white flour of the grain, and so also are other bodies of a fatty nature, as, for example, lecithin, which is known specifically to be of material value from a medicinal or perfect nutritional standpoint.

There is an abundance of evidence that extracts of wheat bran and wheat germ, when supplied to animals suffering from diseases brought about by imperfect diet, remove the cause of disease, or supply a defect, and perfect its cure. It may be that the interpretations as to the identity of principles which are instrumental in bringing about this change have not as yet been clearly worked out, but the experimental data at hand are sufficient to demonstrate that such principles are present and do give the results indicated.

The action of these principles appears to be independent of that of the grosser food constituents—the ordinary fats, the carbohydrates and the protein, the value of which, as sources of bodily energy and tissue are of course not to be in any way depreciated.

In the many letters which come to us asking advice about reducing menus, using substitutes for high-priced food materials, and other means of combating the present

high prices, no other subject is so frequently asked about as is the use of oleomargarine for butter.

The *New York Times* recently published a letter written to the editor by Haven Emerson, commissioner of health, on the use of oleomargarine. A part of this letter follows:

"In your editorial comment of recent date on the necessity of revision of national and state restrictions upon the manufacture and sale of oleomargarine, you do a public service in urging release from a form of class legislation which contributes not a little to the unnecessary cost of butter and other edible fats. The controller of New York City is compelled to waste, at the present prices of butter and oleomargarine, close to \$40,000 a year, because he is not allowed to buy for the hospitals and institutions under the jurisdiction of the city oleomargarine instead of butter. Legislation in the interest of the farmers, coupled with misinformation, is responsible for the present state of affairs.

"Oleomargarine is made exclusively in Federal-inspected slaughter houses and is subjected to a pasteurizing process during manufacture.

"Butter is made from cream from untested cattle, probably 20 to 30 percent tuberculous, and made in a multitude of farm and dairy premises and butter factories, unsupervised and known to be, in many instances, unsanitary.

"Oleomargarine is used by the Association for Improving the Condition of the Poor, the City Mission, Brooklyn, Fort Totten Post Hospital, regiment of regulars, Sea Girt and Fort Hamilton, the Department of Health Lunch Room, and by public institutions in the following states: Massachusetts, Rhode Island, Indiana, Illinois, West Virginia, Kentucky, Kansas.

"Weight for weight, and quality for quality, oleomargarine is of equal value with butter, and is as wholesome, nutritious, and palatable. Its use is extending steadily on its merits.

"As butter is never an exclusive article of diet and as milk or vegetables and fruit in the general diet of children and adults contain the substances other than fats, which butter has and oleomargarine has not, there is no disadvantage from the point of view of caloric value or of other food ingredients in replacing butter by oleomargarine in table use and cooking for children and adults.

"If our legislators at Albany and Washington wished to do a real service in reducing the cost of food in one instance, they would repeal all the embarrassing restrictions now put upon oleomargarine, while retaining the valuable protection which guarantees the sanitary safety of its manufacture."

#### The Hospitalization of Sick and Seriously Wounded Prisoners of War in Switzerland

Last May, says the *American-Swiss Gazette* of New York, there were in all 28,367 sick and wounded prisoners of war interned in Switzerland. Of these 8,572 were German, 15,735 French, 1,931 Belgian, and 1,875 British soldiers. The greater part of the latter are interned at Chateau d'Oux, in the Canton of Vaud. A large hotel has been converted into a hospital. The tuberculous patients are treated in Dr. Rollier's famous heliotherapeutic establishment at Leysin. All soldiers who have been cured of tuberculosis, as well as those who have passed the fortieth year, will soon be repatriated, under the condition that they will not serve again in the army. The pure mountain air has a wonderful effect on these patients. Pale, emaciated men have become strong and healthy, and even the cripples are full of life and vigor. They live on excellent terms with the native population, and not a few have married Swiss girls.

It is now pretty general to make a strong point, and properly to impress upon each nurse, that silence is golden. No woman with a tongue like a rattle can ever become a good nurse.—The Hospital, London.





# CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature.  
Army Medical Museum and Library, Office of the Surgeon-General,  
United States Army.

**A Plan for the Systematization of the Buildings of the Hospitals of Rome** (Proposta di sistemazione edilizia degli ospedali di Roma). Osp. maggiore, Milano, 1917, V, No. 2.

Two million francs have been appropriated by the board of hospitals of the city of Rome for the purpose of systematizing its hospitals. With this sum it is proposed to enlarge and remodel a number of the hospitals of the city, to construct isolation buildings in all the hospitals, and to erect a large sanatorium for tuberculous patients on the seashore and another one in the mountains. Both these sanatoriums will be connected with the city hospitals.

**Hotel Sanatoriums and Sanatoriums for Tuberculous Patients in the Region of Itatiaia.** Dr. O. de Souza. Brazil-Medico, Rio de Janeiro, 1917, XXXI, No. 23.

The region of Itatiaia, in the state of Rio de Janeiro, with its healthy climate and varying altitudes, presents special advantages for the treatment of tuberculosis. A special commission of the National Academy of Medicine has examined the question and recommends the establishment of sanatoriums for the tuberculous in this region. Sanatoriums for special cases of tuberculosis may be located as high as 2,000 meters above the sea. The commission recommends that the construction, installation, and management of these sanatoriums be placed under strict supervision of the government.

**Care of the Insane in Japan.** Dr. N. Ishida. Am. Jour. Insan., Baltimore, 1917, LXXIII, No. 4.

As in all other countries, the treatment of the insane in Japan has been one of neglect and cruelty. Some progress has been made, but much remains to be done. The first public asylum was established in Kyoto in 1875. But the institutions for the care of the insane are still so few that more than four-fifths of the patients are kept at home, where they are usually locked in dark cages and gloomy dungeons. A few years ago small hospitals for the insane were established in connection with the medical schools at Kyoto, Osaka, Kanazawa, Chiba, and a few other places. In all these institutions the no-restraint system is strictly observed. The Nagasaki hospital was the first in Japan to adopt the open-door system.

**Report on a Plan to Create Stations for Evening Consultation and Treatment for Syphilitics in a Certain Number of Hospitals of the General Administration of the Public Hospital Service.** Dr. L. Brocq. Bull. et mém. de la Soc. méd. des hôp. de Paris, 1917, XXXIII, No. 17.

In order to combat the spread of syphilis, the Medical Society of the Paris Hospitals demands the establishment of a number of dispensaries where syphilitics may be ex-

amined and treated free of charge. The class of people for whom these dispensaries are to be established are workmen and working women, or small tradesmen who have no time during the day to seek medical aid. It is proposed to attach these dispensaries to some of the great hospitals of Paris. Six such hospitals have already been selected and the distribution of the dispensaries is such that they are easily accessible to the working population. The diagnosis and treatment of syphilis, which in modern times have been greatly perfected, require special apparatus and facilities where these dispensaries are to be installed.

**Sunlight and Hospital Construction** (Pro Sole). Dr. C. van Walsem. Ziekenhuis, Amsterdam, 1917, VIII, No. 5.

Sunlight as a factor of cure has at all times played an important part in hospital construction. In densely populated cities the demands for light and air must necessarily be limited on account of high land values. But mistakes are frequently made that could be avoided. It is not rare that the main front of hospitals is turned toward the southeast. If the builder can choose between a southeastern and a southwestern front, he ought to decide in favor of the latter, because the patients will have the benefit of the sun a longer time than is the case with a southeastern exposure. If a hospital is to be built on the west side of a street or road running east and west, it should front toward the southeast; if on the east side, it should face southwest.

**The First Attempts at Heliotherapy in Brazil.** A. Moncorvo Filho, M. D. Brazil-Medico, 1917, XXXI, No. 6.

The author, who is director and founder of the Institute for the Protection and Care of Children in Rio de Janeiro, has recently established a special service of heliotherapy in this institution. The solarium used for this purpose is located on spacious grounds in the suburbs of the city. Here a large number of children with general and localized tuberculosis are exposed to Dr. Rollier's famous method of treatment. In spite of the fact that the weather during the first months of the present year has been very unfavorable, the results so far obtained have been very good. The author is especially enthusiastic with regard to the results of the treatment in cases of tuberculosis of the bones and joints. The article contains the detailed history of a great number of cases, in some of which the results obtained were most remarkable, proving that it is not at all necessary that heliotherapy should be combined with high altitude, though high elevation is very favorable to the action of the sunlight.

**Sanatorium "Carit" for Tuberculous Patients** (Sanatorio "Carit" para tuberculosos). Gac. med. de Costa Rica, 1917, No. 40.

As in other countries, the care of tuberculous patients is also a problem in the Republic of Costa Rica. A commission has recently been appointed to select a locality for a sanatorium to be erected. A place near Tierra Blanca, north of the city of Cartago, was chosen. It fulfills to a high degree all the conditions for such an institution. The question of altitude plays here an important part. The European sanatoriums are all at an altitude of 1,000 to 1,500 meters (over 3,000 to nearly 5,000 feet). In the United States an altitude of 4,000 feet is considered to be sufficient. But as all the cities of Costa Rica are situated above an altitude of 1,000 meters a sanatorium for tuberculous patients would there naturally require a higher altitude. The commission therefore wisely selected a place 7,349 feet above the level of the sea. The sanatorium is well protected from the north winds and pre-

sents unusual advantages for heliotherapy. The institution consists at present of a central administration building and two pavilions, one for men and one for women. All the structures are frame buildings. Only patients will be received who are in the initial stages of the disease and who present a possibility of a permanent cure.

**The Tuberculosis Sanatorium for the Chinese at Kuling.** China Med. Jour., Shanghai, 1917, XXXI, No. 2.

The Kuling Tuberculosis Sanatorium is situated in the mountains of Kiangsi, 3,500 feet above the sea. The air in this region is dry and invigorating and very beneficial in lung diseases. Even in the depth of winter patients react to the cold, dry temperature and experience much less discomfort than in the damp atmosphere of the plain. The very latest and most approved methods for the open-air treatment of pulmonary tuberculosis are in use at this sanatorium. The open-air treatment has been very successful, as practically all patients in the early stage of the disease recover and patients with advanced disease all improve while they stay at the institution.

**The Reform of the Foundling Hospitals.** M. Flamini, M. D. Policlinico, Roma, 1917, sez. prat., XXIV, No. 15.

Among the institutions which need a radical reform after the war are the foundling hospitals. Of 58,000 illegitimate children cared for in Italian foundling hospitals during the year 1905, 14,000 died before they had completed the first year of life. This great mortality is due to the difficulty of finding wet-nurses for these babies. To remedy these conditions the author proposes a law which forbids any mother to send her illegitimate child to the foundling hospital unless she can present a certificate by a physician that she is unable to feed her child at the breast. If she can feed the child but is poor, she shall take care of the child at least during the first six months, the hospital paying her a monthly subsidy. If such mothers are willing to serve as wet-nurses in the hospital, they shall be accepted, the hospital paying them a reasonable salary.

**Heliotherapy in the Treatment of War Wounds.** Dr. Magrassi. Riforma med., Napoli, 1917, XXXIII, No. 14.

In combating surgical infection the sunlight is a most valuable aid to the surgeon, not only on account of its germicidal power, but also on account of its stimulating effect on the elements of repair and regeneration in the body. These advantages were quickly appreciated during the present war. In France and in England, sunlight is extensively employed in the treatment of wounds. In the great hospital at Cambridge there are large sheds opening toward the south, where sick and wounded are daily exposed to the curative action of the sun's rays. The author has had a wide experience with heliotherapy in an Italian field hospital, as well as in the territorial Red Cross Hospital at Brescia. Large suppurating wounds of the soft parts, comminuted fractures complicated by suppuration, and amputation stumps in various stages of sepsis were treated by heliotherapy. The results, the author adds, were truly marvelous.

**The Registration of Out-Patients.** Dr. G. Hadden. China Med. Jour., Shanghai, 1917, XXXI, No. 1.

The loose-leaf register is the most satisfactory system for registering out-patients. It is simple and easily installed. No printed sheets are necessary. The only other essential is a ticket for the patient. The doorkeeper gives to each patient a ticket and a half-sheet of blank paper. On the latter he fills in the name, age, address, etc., and

adds the date with a rubber date-stamp in the right-hand upper corner below the register number, which number is repeated on the ticket. The patient brings ticket and sheet to the consulting room. The doctor writes in any notes he may choose before passing the patient on to the surgery or dispensary, where the sheet is retained and the ticket returned to the patient for his next call. In the evening the doorkeeper collects the sheets and files them by number in a box, ready to be taken out on the next day. To save the sheets from crumbling in the waiting room they may be placed on a holder of thin wood a little larger than the sheets, the latter being held in place by a thin string.

**The New Division for Babies in the Emma Children's Hospital in Amsterdam** (De nieuwe zuigelingenafdeeling van het Emma-Kinderziekenhuis te Amsterdam). Dr. J. C. Schippers. Ziekenhuis, Amsterdam, 1917, VIII, No. 4.

In 1915 a former isolation building of the Children's Hospital was remodeled for a babies' division. The building has two stories and a basement. The first floor contains, besides the kitchen, a large room in which there are twelve cribs ranged along the south side with an interspace of 1.1 meters (about 3 feet 6 inches) between the beds. On the second floor are two smaller rooms, one with four, the other with two cribs, and a couveuse room. The attic contains the rooms for the nurses. The milk kitchen is in the well-lighted basement. The bottle sterilizer consists of a basin of galvanized iron and is heated by gas. Every morning the nurse at the head of the kitchen receives the orders for what is needed for the day. The various foods are prepared and put in sterilized bottles. Each bottle carries the number of the child for which it is intended. The service is carried on by nine nurses, a chief nurse, four day and two night nurses, and two nurses managing the milk kitchen.

**Systematized Boarding Out Versus Institutional Care for Infants and Young Children.** Henry Dwight Chapin, M. D. New York Med. Jour., 1917, CV, No. 22.

Dr. Chapin attributes the admittedly heavy morbidity and mortality in institutions for children to two factors: (1) lack of individual care; (2) lack of fresh air. The lack of care is especially evident at night, for there is rarely, if ever, a sufficient number of nurses to give the constant attention needed by acutely sick babies. "A restless, uncomfortable night," he says, "will undo the work of many days of care in feeble infants." The cubic air space is usually insufficient in institutions, and the collection of many infants in one room, even though large, is undesirable.

Properly regulated boarding out—a plan which must not be confused with boarding out in all kinds of homes with little or no oversight—Dr. Chapin believes to be by far preferable to institutional care. The home must be carefully selected and the doctor and nurse kept in constant touch with the case. The baby should receive the amount of personal care and attention which a well-cared-for child receives in its own home. The Speedwell Society which has worked for fifteen years at Morristown, N. J., boards out infants in units which allow intensive working in small fields. The mortality of atrophic babies under 6 months of age, nearly all of whom, Dr. Chapin says, would have died if kept in an institution, has been, under the auspices of the Speedwell Society for the last three years, but 16 percent. The mortality of all cases, including many older children, was 2.5 percent. A comparison between institution and boarding out mortality is afforded also by the results obtained by the Sage Foundation and the New



York Department of Health with marasmic babies in the ward of the New York Foundling Hospital that receives only chronic cases of extreme atrophy, which have always ended in death. An extra bonus of five dollars a month was given to selected women to care for a number of these babies. A doctor and nurse were furnished for every ten babies. A few infants were returned to the hospital, but 89 remained in the individual homes with a mortality of 46 percent.

Dr. Chapin quotes another experiment in San Francisco. The mortality in the foundling asylums of that city is said by Holsclaw and Rood to have been 50 percent. Carefully systematized boarding out of the same class of cases has resulted in reduction of the mortality to 12 percent. Comparable results are reported from the children's department of the Massachusetts General Hospital. In this case, however, the infants were not boarded out, but supervised in their own homes.

Among the advantages of boarding out are the following: The danger of spreading communicable diseases is reduced to a minimum. The infants in boarding homes are stronger than most of those who are retained long in institutions, even if the latter are free from disease. Boarding out is cheaper in operation, besides giving better results. The money locked up in the original cost of an institutional plant must be added to the cost of operation, and likewise the remission of taxes is made up by the community at large in the shape of additional taxation. The home, poor and imperfect though it may be, is better in the long run for the little child than the institution.

Dr. Chapin remarks incidentally that the sum of ten dollars a month commonly paid to women who receive children boarded out is too small for favorable results. It is not right, he says, to exploit poor women in applying the system.

**The Care and Treatment of the Insane in the County Institutions of Pennsylvania.** William C. Sandy, M. D. *Mental Hygiene*, 1917, I, No. 2.

A survey of the institutions caring for the insane in Pennsylvania, made in 1914 for the Mental Hygiene Committee of the Public Charities Association of Pennsylvania by Dr. C. Floyd Haviland, King Park, New York, State Hospital, discovered amazing neglect and many distressing conditions. An effort on the basis of Dr. Haviland's report to secure legislation for abandoning county care in favor of an efficient system of state care failed. The Public Charities Association in 1916 requested the National Committee for Mental Hygiene to make another survey of county asylums. This survey was made by Dr. Sandy, whose article in *Mental Hygiene* is a summary of his report on the subject. Dr. Sandy summarizes the requirements of a modern hospital for the insane as follows:

1. Properly designed and equipped buildings, insuring enough day and night space, sufficient sanitary toilet and bathing facilities, adequate fire protection, heating, water and light facilities, a sewage disposal plant, culinary and service departments, with a modern business system of administration.

2. In the buildings, wards or units sufficient to permit proper separation of the different classes of the insane, with provision for the reception of new patients, the isolation of the tuberculous, the infirm and sick, the noisy, violent, destructive, and untidy, the working, clean, and chronic, and the convalescent.

3. A medical superintendent experienced in diagnosis, treatment and care of the insane, and possessed of executive ability.

4. A sufficient medical staff to insure individual attention to the patients.

5. Frequent staff conferences, presided over by the superintendent or some other competent physician, at which all patients may receive consideration as to diagnosis, treatment, and other matters of importance.

6. Thorough mental and physical examination of each patient, and complete records.

7. A well-equipped laboratory with a trained pathologist.

8. Equipment for hydrotherapy, electrotherapy, dentistry, general and special surgery, and special examinations, such as that of the eye.

9. A sufficient number of nurses and attendants, a good training school for nurses and competent supervisors.

10. One or more full-time instructors in diversional occupation and sufficient land to afford outdoor occupation in the form of farm and garden work.

11. A field or social worker for prevention and after-care work.

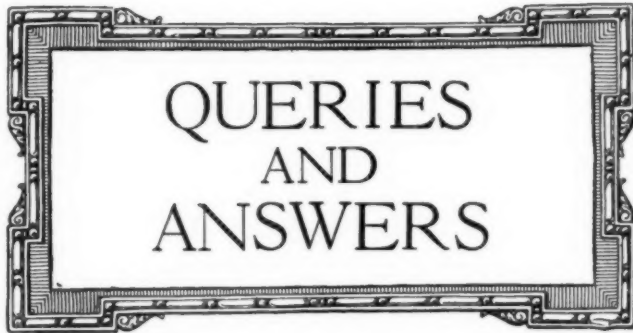
12. Clinics conducted by the members of the medical staff in the interests of prevention.

The physical conditions found in county institutions for the insane in Pennsylvania were satisfactory in extremely few instances. The plans evidence no thought that the buildings were to house the sick. In some buildings there was wasteful extravagance and stained glass windows and lavish use of gold leaf and marble. In others there was a painful lack of sufficient sanitary and comfort arrangements. Some of the county institutions had so few wards that it was impossible to separate properly the different classes of patients. Fire protection in most cases had been given little or no careful attention. In a number of institutions the amount of water available was much too small and the pressure too low for fire protection purposes. In some cases the water was subject to surface contamination. Bathing facilities were inadequate in many cases.

In county institutions it is quite the rule for the insane to be entrusted to the care of laymen, usually without any previous experience. The medical attention is usually meager and most superficial. An illustrative case is cited of a patient unable to speak English, who, on being examined by a recently appointed superintendent, was found to have given no trouble and no indication of mental abnormality. Questioned by an interpreter, the patient talked rationally. He had not realized where he was; he thought he was serving time in a penal institution for some offense of which he had no knowledge, and when his time was up he would be allowed his freedom. Such an instance of unjust confinement could not have occurred in a modern hospital, where the patient would have received a thorough physical and mental examination on admission, and the circumstances of his commitment investigated, if necessary, by the social worker.

Most of the institutions are without even primitive facilities for laboratory tests not only for mental diseases, but also for ordinary physical ailments. Facilities for dental work and electrical diagnosis and treatment are generally lacking. Too few attendants are provided in practically all of the institutions. In only a few can there be said to be nurses employed. In only four of the institutions are there training schools for nurses.

Only three of the institutions are provided with special instructors for diversional occupation. Only one institution is now providing after-care. None of the counties has instituted any plan looking toward prevention. Dr. Sandy observes in conclusion that the outstanding impression left is that of total lack of standardization of both equipment and methods.



### Educating a Community

To the Editor of THE MODERN HOSPITAL:

Our county seat has three so-called hospitals, which are really only boarding houses for the sick; there are several thousand mine workers in the county, and a good hospital is needed. The people are not interested because bad methods have been used for personal gain in the present hospitals. Can you suggest a remedy?

AN IOWA WOMAN.

We want to advise you that you have a problem contemplating the education of your people. The best thing to do is for you to get hold of your county or town newspaper, tell the editor what you think you need and ought to have, and why; show him in detail the inefficiency of your present hospitals, and suggest to him a propaganda or campaign for better hospital facilities in the community. Watch your opportunity and get hold of all sorts of details of mismanagement and of instances in the community where a good hospital would really be an asset to the people; for instance, there are many chronic individuals walking your streets, men and women, who could be cured in an up-to-date, well-equipped, well-manned hospital. Crooked limbs, disfiguring, distorting scars from burns, cross-eyes and poor vision that could be cured, blindness from cataract, pot-bellied child-bearing women, whose condition is due to gynecologic mismanagement, and a thousand and one other evidences of professional neglect in the community due to the absence of a stimulating workshop for the doctors, a place in which the men would be compelled to keep up in their literature and where they would have an opportunity to become skilled in surgery and in the technical branches of medicine. If you can get such a campaign as this going you will soon find a demand in the community for a good hospital, and with that demand you will find a ready response.

### In Children's Dining Rooms

To the Editor of THE MODERN HOSPITAL:

Kindly give us your advice as to the best kind of table covering for use in an orphans' home where the children's ages range from 2 to 5 years; eight children at a table and about eight tables in the dining room.

Oilcloth is not satisfactory. White paint needs to be constantly renewed, and table cloths are about impossible because the children are so small and there are two sittings. Is Vitrolite practical for the hard usage which would be given it?

Any suggestion you may offer will be very much appreciated.

A JEWISH ORPHAN ASYLUM.

We find it difficult to give a satisfactory reply to your question. Oilcloth has seemed the satisfactory table covering in many institutions, but personally we are very strongly opposed to the use of anything so cold and uninviting, especially for children.

It seems to us that if we are to undertake to raise orphans we ought to make the home as attractive, invit-

ing, and cozy as can possibly be. The Jewish people of Chicago have been discussing for a long time the advisability of doing away with orphan asylums and placing the children in private homes. This is partly in order that they may be surrounded by a homelike atmosphere. A bare table or an oilcloth in the dining room is not in keeping with this humane and very proper sentiment. It seems to us that you could get some heavy but inexpensive linen or cotton table cloths and they would certainly be far preferable to anything that you could use. Vitrolite or anything of that sort would be impracticable because the dishes would break and the use of enameled ware dishes is not in keeping with the principle of surrounding the children with refining home influences. We think you had much better get table cloths.

### Hospital Construction Today

To the Editor of THE MODERN HOSPITAL:

We have plans in our office for the construction of a reinforced concrete hospital building, the erection of which is being held up by the building committee, who think that by deferring the erection for a while they will be able to let the contract for less money than they can at this time.

As we want to give our clients the best information obtainable, and the best advice that we can, we are writing to ask you, as being in a position to give us an intelligent and unbiased opinion, to reply to the following questions?

1. Do you think it advisable to build now, or to defer building for a while?
2. Whether you think it wise to wait or to build, will you please state your reasons for your opinion?
3. How long do you think the present prices will be maintained?
4. Do you think there will be an upward tendency in prices, or not?
5. Will you kindly give any further suggestions?

A SOUTHERN ARCHITECT.

1. We think it advisable to defer building for the time being.
2. The reason is that materials are prohibitive in price and almost impossible to get.
3. We think that present prices will be continued for the period of the war.
4. We doubt whether prices will go much higher, because there is an evident intention on the part of the government to control prices in all directions, and this tendency is likely either to stabilize prices by voluntary action on the part of those making them or to result in throwing merchantable commodities under the direct control of the government, where prices will be cut to legitimate points.
5. There is no legitimate reason for many high prices now asked for many construction materials, excepting a general feverish business feeling throughout the country and a nervousness on the part of business men as to the future. We think this nervousness entirely unjustified by the business situation and it should correct itself at least in part in the near future and be entirely relieved at the end of the war.

A Philadelphia physician, in declaring that insanity was frequently productive of sound logic tempered with wit, told the story of a patient he once met in an asylum.

He came across this patient while strolling through the grounds, and stopping, spoke to him. After a brief conversation on conventional topics, the physician said:

"Why are you here?"

"Simply a difference of opinion," replied the patient.

"I said all men were mad, and all men said I was mad—and the majority won."—Lippincotts.



## LETTERS TO THE EDITOR

## Printed Forms to Prevent Waste of Food

To the Editor of THE MODERN HOSPITAL:

I am inclosing some printed forms which I am using in this hospital to prevent the wasting of food, common to a great many hospitals. The whole scheme is based on the assumption that food served to patients in the hospital is not to be used over again.

classifying different articles of food and listing them so that they may be ordered by symbols, thus saving stationery and time.

These forms are the result of observations which I have made—namely, that there are a certain percentage of patients who do not eat meats, others who do not eat potatoes or certain other kinds of vegetables, others who do not eat bread or butter, and so on.

In carrying out this routine we make out a menu sheet, placing after each article of food on the menu the classi-

## UNIVERSITY OF CALIFORNIA HOSPITAL

Ward..... No. of Patients..... Date.....

	BREAKFAST	10 A. M. Nourishment	DINNER	3 P. M. Nourishment	SUPPER
Bed 1					
" 2					
" 3					
" 4					
" 5					
" 6					
" 7					
" 8					
" 9					
" 10					
" 11					
" 12					
" 13					
" 14					
" 15					
" 16					
" 17					
" 18					
" 19					
" 20					
" 21					
" 22					
" 23					
" 24					
" 25					
" 26					
TOTAL					

(Signed).....

Form 1. Order blank which the dietitian takes around to the patients to get their order for meals. The original sheet is 8½ by 11 inches.

On account of the fact that these forms do not speak for themselves, I will endeavor to explain each one as concisely as possible:

Form 1 is the blank which the dietitian takes around to the patients to get their order for the meals.

Form 2 is the blank on which Form 1 is summarized.

Form 3 (page 380), "Classification of Foods," is a form

fication symbol. I am also inclosing a copy of one of these menus.

I have had this system in operation only a very short time, but long enough to know that it is effecting a saving.

Very truly yours,

H. T. SUMMERSGILL, Superintendent.

## UNIVERSITY OF CALIFORNIA HOSPITAL

## DIET ORDER FOR WARD.....

Date.....

Food No.	BREAKFAST	DINNER	SUPPER
1			
2			
3			
4			
5			
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49			
50			

No. of Patients.....

No. of Patients on Full Diet.....

No. of Patients on Soft Diet.....

No. of Patients on Liquid Diet.....

No. of Patients on Special Diet.....

....., Head Nurse.

....., Dietitian.

Form 2. Form on which the order blank (Form 1) is summarized. The original form is printed on a slip 4¼ by 9½ inches.

## MENU SHEET USED IN CONNECTION WITH THE SYSTEM OF PRINTED FORMS, UNIVERSITY OF CALIFORNIA HOSPITAL

MENU FOR PATIENTS—THURSDAY, OCTOBER 4, 1917

## Breakfast:

Oatmeal	9
Milk for same	6
Sugar for same	7
Eggs	10
Toast	1
Butter	2
Coffee	3 a
Milk	3 b
Milk for coffee	4
Sugar for coffee	5

## Dinner:

Soup	13
Roast lamb	11 d
Mashed potato	14 i
Beets	14 c
Blanc mange	16 h
Bread	1
Butter	2
Tea	3 c
Milk	3 b
Milk for tea	4
Sugar for tea	5

## Supper:

Fillet of sole	12 f
Rice	9 e
Canned pears	9 k
Bread	1
Butter	2
Tea	3 c
Milk	3 b
Milk for tea	4
Sugar for tea	5

The man who is indispensable owns the situation. In the long run every man gets in life about what he deserves. The vision of truth embraces many things which the objector will not see. The objector makes *what he desires* for what he deserves.—Haddock.

## UNIVERSITY OF CALIFORNIA HOSPITAL

# CLASSIFICATION *of* FOODS

## FOR FULL AND SOFT DIETS

## 1. Bread

## 2. Butter

## 3. Beverages

- a. Coffee
- b. Milk
- c. Tea

## 4. Milk for Coffee or Tea

## 5. Sugar for Coffee or Tea

## 6. Milk for Cereal

## 7. Sugar for Cereal

## 8. Fruits

- a. Apples
- b. Apricot
- c. Berries in Season
- d. Cantaloupe
- e. Cassava Melon
- f. Cherries
- g. Figs
- h. Grapefruit
- i. Oranges
- j. Peaches
- k. Pears
- l. Prunes
- m. Rhubarb

## 9. Cereals and Cereal Products

- a. Oatmeal
- b. Rolled Oats
- c. Cornmeal
- d. Hominy
- e. Rice
- f. Spaghetti
- g. Macaroni

## 10. Eggs

## 11. Meats

- a. Bacon
- b. Roast Beef
- c. Roast Mutton
- d. Roast Lamb
- e. Roast Veal
- f. Roast Chicken
- g. Smoked Beef
- h. Boiled Beef
- i. Boiled Mutton
- j. Boiled Ham
- k. Boiled Tongue
- l. Beef Stew
- m. Mutton Stew
- n. Veal Stew
- o. Chicken Fricassee
- p. Breasts of Lamb
- q. Chops
- r. Steaks
- s. Hash
- t. Brains
- u. Chili Con Carni
- v. Frankfurters
- w. Liver
- x. Kidneys

## 12. Fish

- a. Baracuda
- b. Codfish
- c. Fresh Cod
- d. Clams
- e. Crabs
- f. Fillet of Sole
- g. Finnan Haddie
- h. Fish Chowder
- i. Halibut
- j. Oysters
- k. Salmon
- l. Striped Bass

## 13. Soups

## 14. Vegetables

- a. Artichoke
- b. Asparagus
- c. Beets
- d. Carrots
- e. Cauliflower
- f. Corn
- g. Onions
- h. Peas
- i. Potatoes
- j. Spinach
- k. Sprouts
- l. Stringbeans
- m. Squash
- n. Tomatoes
- o. Turnips

## 15. Salads

- a. Lettuce
- b. Vegetable
- c. Potato
- d. Egg

## 16. Deserts

- a. Bread Pudding
- b. Tapioca Pudding
- c. Rice Pudding
- d. Cottage Pudding
- e. Gelatins
- f. Ice Cream
- g. Custard
- h. Blanc Mange





VINCENZ MUELLER, Technical Editor.  
GEO. W. WALLERICH, Associate Editor.

Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast avenue, Oak Park, Illinois.

### New Syringes

Two new splendid additions have been made to the Asepto type of syringes.

Syringe No. 206-L is for applying the Carrel-Dakin solution whenever the large apparatus is not necessary, and for keeping the drainage open. Dr. A. Carrel describes and recommends the syringe on page 115 of his booklet ("Treatment of Infected Wounds," British edition). The syringe can be used as an ulcer and dressing syringe, and by putting a soft rubber tip over the end, it is available as an eye, ear, and urethral syringe. It has a capacity of  $\frac{1}{2}$  ounce.

Syringe No. 206-H has proved very useful in the operating room, ward and private practice. The syringe can



Asepto syringe, 206-L.

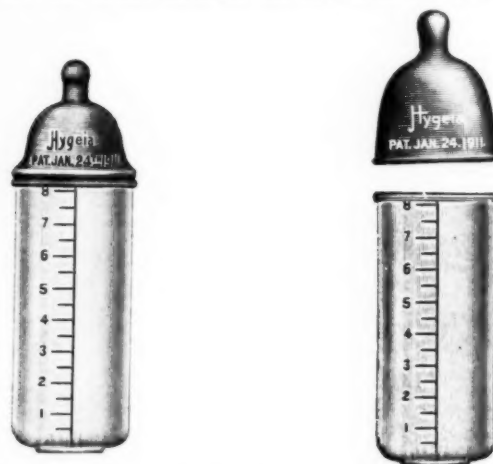
be promptly filled and emptied in one pressure, and only one hand is needed. Both syringes have the patented bulb, which prevents the fluid from flowing into the bulb. Syringe No. 206-H has a capacity of 1 ounce.

Both syringes were demonstrated at the meeting of the American Medical Association, New York City, and the meeting of the American Homeopathic Association, Rochester, N. Y., and found universal approval. The syringes are being used by the Rockefeller Institute for Medical Research in the demonstration of war surgery.

### The Hygeia Nursing Bottle

For a mere man to write of how a baby should be nursed is a more difficult task than it may appear, especially writing to readers of a journal who are for the most part professionals and who no doubt have forgotten more about the subject than the editor of this department will ever be able to learn; therefore, he will not talk about how the operation should be accomplished, but will simply call their attention to the construction of a nursing bottle, which seems to him, from a mechanical point of view, about the most practical and sanitary of the endless variety of bottles which have been devised for this purpose and which have come to his attention. The most appealing feature in this nursing bottle is the ease with which the food cell may be cleaned; no brush is required—the fingers can reach every part of the cell.

The Hygeia tube nursing bottle consists of one tube and two so-called breasts. When the breast at one end of the tube is turned inward it forms the base of the nursing bottle. The nipple at the base may be punctured or not, as preferred. When the nipple is perforated, air enters the base of the bottle and nursing is not obstructed by air entering the bottle through the nipple in use by the baby.



The Hygeia nursing bottle and its component parts.

The inventor claims that this makes nursing easier for the child, and if there is any leakage it can be prevented by placing a bit of non-absorbing cotton within the nipple. When the breast at the top gives out, it may be placed at the base, thus giving one a fresh nipple for the top.

This nursing bottle is made in two sizes, namely, in 8-ounce and 10-ounce capacity. Both food cells are made of the same diameter, consequently the breast nipple will fit either size.

### The Moering Plaster Cutter

This plaster cutter is of the electrically operated variety and is of unusually good construction. The motor is of the universal type, very powerful, and, on account of the convenient method of holding, can be applied with the greatest ease. A substantial and well-designed hand hold is so placed that the cutter is always in view of the oper-



The Moering electrically-driven plaster cutter.

ator. Directly attached to the motor shaft is a series of knives of such design that the cutting is clean, and there is no possibility of the knives being filled with plaster. The guard is narrow, so as to permit easy introduction. When a cast is to be removed the guard is slipped under the

plaster, the motor started by means of a push button at the top of the hand grip, and the cutting will be done with surprising speed.

Aside from the time gained from removing cast, there is a decided advantage by the use of the Moering cutter, when a cast is to be preserved for the purpose of making a model. The narrow cut does not injure the shell, as in the case of some of the hand-operated instruments. The motor is universal and will therefore operate either on alternating or direct currents.

### The Sarco Temperature Regulator

To control the temperature of liquids, as water for baths, pasteurizers, normal saline solutions, abdominal and other irrigation, infant and pathological incubators, etc., by entirely automatic means, has in the past offered in many cases a hard problem to solve. These difficulties are quite generally recognized by those who have had experience in the use of such regulators.

Briefly, the trouble in many cases has been due to the use of mercury, which emulsifies any metal parts, packings which deteriorate, springs which require frequent attention, or where air is used, leakage, etc. There are, of course, successful regulators making use of the foregoing methods, but the perfect ones are few.

The system employed in the construction of Sarco regulators seems to be trouble-proof and at the same time permits of extremely accurate control. Fig. 1 illustrates the Sarco regulator for tanks, containers, etc.

Fig. 1. Sarco regulator for tanks, containers, etc.

Fig. 2 shows connections as they would be made by installing the regulator for heating liquids by means of steam coils. The construction of the regulator is indeed simple.

If a metal cylinder completely filled with oil is hermetically sealed and then heated, the oil will expand with such great force as to split the cylinder. This enormous pressure is utilized in the Sarco temperature regulator. Referring to the illustration below, the oil cylinder communicates through a pipe with another cylinder in which there is a piston, the entire system being completely oil-filled. The piston in the piston cylinder actuates a valve. If the oil cylinder is immersed in a tank containing the fluid, temperature of which is to be regulated, and the



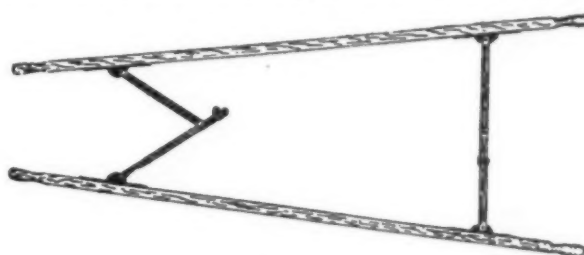
Fig. 2. Showing Sarco regulator connected with water tank.

tank is heated, say, by a gas flame, the supply of gas to which is regulated by the supply valve, the mode of operation is obvious. When the temperature of the tank liquid rises, heating the oil in the oil cylinder, the expanding oil pushes the piston outward in its cylinder and closes down the supply valve, thus reducing the gas flame. If on the other hand, the tank temperature falls, the oil in the cylinder cools and contracts, thus allowing the piston in the piston cylinder to go back, opening the supply valve and thus turning the gas flame higher.

There are other mechanical parts which are necessary to the perfect operation of the regulator, all of which are explained in minute detail by the manufacturer.

### A Bed Carrier

A simple and convenient device for lifting patients in their beds, by which two men can do the work which otherwise would require four, is described in a recent number of the *British Medical Journal* by A. Geoffrey Evans, temporary surgeon, R. N., of the R. N. Hospital, Mount Stuart. It consists of two stretcher poles, each measuring 104 by 1 1/4 by 2 1/2 inches, the ends shaped into handles. Two jointed flat iron bars connect the two poles, to which they are attached by hinges, at distances from the ends of the poles corresponding with the head and foot of the bed. One section of each bar overlaps the other section from the



Bed-carrier described by Surgeon Evans of the British Navy.

central joint, this longer section being turned over at the end to grip its fellow, thus preventing overextension. When in use the carrier, with jointed bars extended so as to prevent the poles from meeting or approaching, lies under the bed frame. Four buttresses on the poles rest hard against each leg of the bedstead to prevent the bed from slipping when it is carried up an incline. The bedsteads with which this device is used are light, of the ordinary hospital pattern, measuring 6 feet 4 inches by 3 feet 3 inches. Mr. Evans makes no claim to originality in this contrivance, but calls attention to it because of its originality.

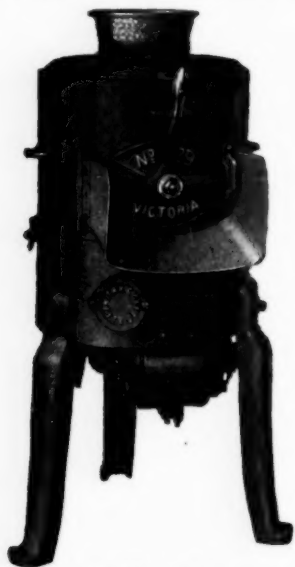
### Labor-Saving Machines

A type of labor-saving machine, which has for some years found favor, especially in large restaurant kitchens and other establishments where a great many people have to be fed, and whose merits have perhaps not been sufficiently appreciated by hospital and sanatorium managers, is the vegetable-paring machine. The Imperial Machine Company has recently brought out a new type, under the name of the "Victoria," as illustrated below, which seems especially suitable for use in smaller institutions since the scarcity of labor is becoming more generally felt and the cost of vegetables continually increasing.

This machine is adapted to the purpose of peeling, cleaning, and washing nearly all kinds of vegetables, such as white or sweet potatoes, carrots, turnips, beets, and parsnips, in large or small quantities, at the rate of about a bushel a minute with the larger-size outfits. These machines are made in several sizes and are adapted for direct electric drive belt or hand power. The special advantages claimed by the manufacturers for this machine are: great reduction of waste in vegetables and practical elimination of human labor in the handling of the vegetables, thus preventing any possible contagion. The peeling is done by a centrifugal process and friction inside of a cylinder, which is lined with carborundum fused with the metal,



while being sprayed with water, which carries off the refuse to the sewer. The mechanism of the machine, consisting of such parts as bearings, steel shafts, and gears,

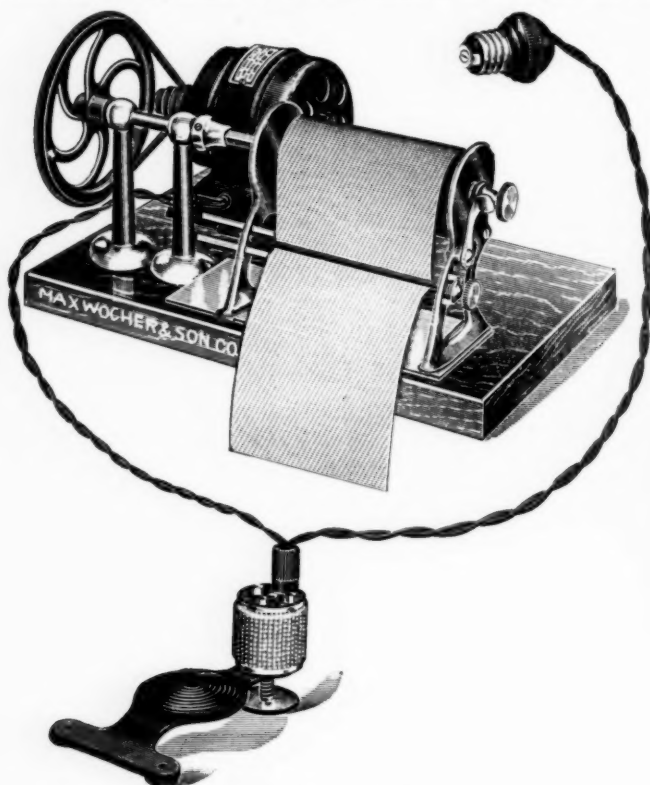


Victoria vegetable peeling machine.

is all enclosed in a water-tight compartment, which is filled with oil and grease, and the inventor claims that the machine is practically indestructible.

#### Electrical Bandage Roller

This device has been put on the market under the trade name of the Hoffman Blue Cross Electric Bandage Roller. The outfit is operated by a small electric motor, and can be



Electrical bandage roller.

used on either the 110-volt direct or alternating current. It is small in design, measuring 15 inches wide, 15 inches deep, and 7½ inches high. The motor is operated with a

foot switch, and can be stopped instantly. The bandage roller is connected with the motor by a small line shaft. This apparatus is adjustable, so that any width of bandage from 1 to 9 inches can be wound. The work can be done very efficiently, and more expeditiously by the use of this machine than by hand, and it should commend itself as a labor-saving device.

#### New Burdick Heat Applicators

The rapidly growing interest in the use of light and heat for both local and general applications has led to the development of a new line of applicators, adapted to most approved methods of technic. In designing the new series of applicators, the following specifications were carefully adhered to: 1, all electrical construction to comply with the

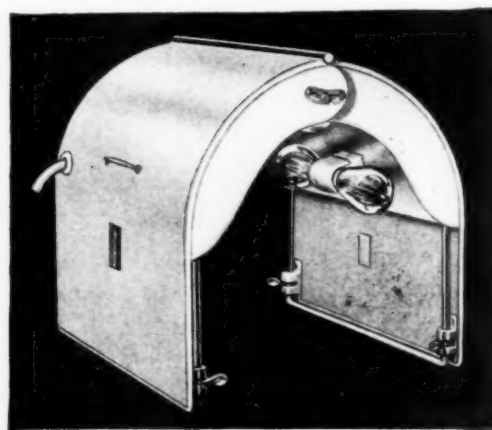


Fig. 1. Type G applicator.

latest code of the National Board of Fire Underwriters; 2, abundant thermal insulation for protection of both patient and operator; 3, construction to be light in weight, making the applicators easily portable, yet strong and durable; 4, electrical control to provide for wide range of temperatures measured by a high-grade standard thermometer, as required for varied methods of technic; 5, adjustability in height and width for use on a wide bed or narrow treat-



Fig. 2. Type P applicator used to relieve a case of bronchitis.

ment table, and for handling large or small patients, etc.; 6, the construction to provide for suspending the applicator over the hospital bed, or for collapsing it into a small package when not in use.

Type G is intended, primarily, for continuous general applications of moderate temperatures. The purpose of this applicator is for combating subnormal temperature associated with surgical shock and other debilitating con-

ditions, maintaining a general persistent hyperemia, assisting in the healing of wounds, increased skin elimination, etc. The Anderson tubular ball-bearing hinge is used in Types G and I, which insures easy adjustments, with unusual strength and durability. It can be expanded to full width of the bed, or narrowed to 22 inches in width for use on a treatment table. When desired, the lighting power and temperature can be run up to maximum requirements for baking and sweating effects.

Type I is intended for making intensive applications to the various sections of the body, as pelvis, chest, hips, knees, etc., or for the prolonged moderate applications. The principle of construction is the same as in Type G; the applicator is adjustable for setting astride the body of a large person or for treating a knee or ankle joint, etc. The control provides for a range of heat from "continuous mild" to the most intensive applications.

Type P takes the place of hot-water bottles, electric pads, etc., for making local applications. It is light to handle, has thermal insulation for protection of patient and bedding, and has a cut-off switch in cable, easily accessible to either patient or attendant.

The combined series provides a means of bringing phototherapy and thermotherapy into practical hospital use in their broadest sense and at a moderate cost.

#### Folding Baby Dressing Table

The little baby dresser illustrated here has recently been submitted for our inspection. This device is sub-



Fig. 1. Folding baby dressing table, open.

stantially made of steel, white enameled, and is supplied with solid rubber-tired wheels. The little table is well balanced, and, when securely locked, is very rigid and

cannot be tilted over. The size of the top is 32 by 19 inches, and is made of strong leatherette, which can be easily kept clean. We think that this table will especially



Fig. 2. Folding baby dressing table, closed.

appeal to nurses for use both in institutions and in the home, as it can be folded up and put out of the way when not in use.

#### Description of the Barrack-Tent (Patented), With a Dismountable Floor of the Mobile Surgical Ambulance of the Army

The barrack-tent described by G. Marcovigi (Riv. di ingegneria san.) consists essentially of a wooden framework, a floor of boards with tongue and groove covered with linoleum and a double covering of impermeable tent-cloth forming the walls and the roof. Each barrack-tent is 15 meters long and 5 meters wide, and has three cloth-covered doors and four windows. The floor is formed by 36 boards (0.80x2.40 meters) provided with tongue and groove. The inside as well as the outside of the walls and roof is lined with a layer of tent-cloth so that the framework is between the two layers. The frame and the floor can be dismantled in a very short time and loaded, together with the tent-cloth, on one specially constructed automobile truck.

It requires many faculties combined of observation and memory to speak "the whole truth," and to say "nothing but the truth." "I know I fibs dreadful; but, believe me, Miss, I never finds out I have fibbed until they tells me so," was a remark actually made. It is also one of much more extended application that most people have the least idea of.—Florence Nightingale, "Notes on Nursing."





**The Causes of Tuberculosis.** Together With Some Account of the Prevalence and Distribution of the Disease. By Louis Cobbett, M. D., F. R. C. S., University Lecturer in Pathology, Cambridge. Pp. 707. Cloth, price \$6.50. Cambridge University Press, 1917.

Public hygiene has come to play an important role in the consideration of the many subjects connected with public health matters. "The Causes of Tuberculosis" is essentially a volume addressed to those in the antituberculosis crusade from the standpoint of an experimental pathologist. The chapter dealing with the researches leading to the relation of animals to human tuberculosis is worthy of careful perusal and study. These researches, together with the researches of the Royal Commission on Tuberculosis and the Local Government Board in the County, the Department of Health of the City of New York, and the Imperial Board of Health in Berlin, are brought together in handy form. Many chapters are devoted to the tubercle bacillus and its varieties or types, their distribution, cultural characters, and comparative virulence for a number of animal species. Chapters 4 and 5 consider "Soil and Seed," the importance of individual predisposition and opportunities for infection. Evidence of an experimental kind is brought forward to establish the importance of the quantity of the bacillus in an infecting dose. Chapters 18 to 23 treat of tuberculosis in animals. The resistance of the different species of animal in histological response to invasion by the tubercle bacillus is pointed out. Study is made of the special types of bacillus found in instances of naturally acquired tuberculosis in each animal species, and the susceptibility of that species to infection with each of the three types as shown by artificial experiment. The book, we believe, will receive a welcome from those who have at heart the victory over disease. The author's labors will stimulate a more general interest in the fundamental problems concerning the most important disease affecting mankind, the one disease presenting the greatest number of complex, economic, and social problems. The Cambridge Health Series should appeal strongly to many various classes of readers. This volume should be in the hands of all medical officers of health, sanitary inspectors, teachers, and administrators as well.

CLARENCE L. WHEATON, M. D.

The *Tatler* tells the story of an old Scotchman whose wit was edged with pessimism. One morning he met at her gate a neighbor whose husband was seriously ill.

"And hoo's yer husband this morning, Mrs. Tamson?" he asked solicitously.

"Oh, he's awful bad! The doctor said his temperature has gone to 150."

"Nae, nae, you've made a mistake! Sandy's temperature could never be as muckle as 150—at least, not in this world," he added as an afterthought.

## BOOKS RECEIVED FOR REVIEW

**Society and Prisons.** By Thomas Mott Osborne, L. H. D. Pp. 246. Cloth, price \$1.35 net. Yale University Press, New Haven, 1916.

**Society's Misfits.** By Madeleine Z. Doty. Pp. 255, with 16 illustrations. Cloth, price \$1.35 net. The Century Company, New York, 1916.

**Alienists and Neurologists of America.** Proceedings of Sixth Annual Meeting. Dr. Bayard Holmes, Secretary and Editor. Pp. 212. Published by the Society, Chicago, August, 1917.

**Obstetrics for Nurses.** By Charles B. Reed, M. D., Obstetrician to Wesley Memorial Hospital, Chicago. Pp. 374, with 130 illustrations. Cloth, price \$2.50. C. V. Mosby Company, St. Louis, 1917.

**Lest We Grow Hard.** By E. F. Russell, M. A. Addresses and Papers on Spiritual Subjects in the Service of the Guild of S. Barnabas for Nurses. Pp. 234. Paper, price 40 cents net. Longmans, Green & Co., New York.

**The Child in Health and Illness.** By Dr. Carl G. Leo-Wolf, with an Introduction by Dr. Peter W. Van Peyma, Clinical Professor of Obstetrics, University of Buffalo. Pp. 288, with 68 illustrations. Cloth, price \$2 net. George H. Doran Company, New York.

**The School Nurse.** By Lina Rogers Struthers, R. N., Chairman of School Nursing Committee of the National Organization of Public Health Nursing, 1913-1916. Pp. 293, with 24 illustrations. Cloth, price \$1.75 net. G. P. Putnam's Sons, New York, 1917.

**A Textbook of Anatomy for Nurses.** By William Gay Christian, M. D., Professor of Anatomy, Medical College of Virginia, Richmond. Pp. 222, with 34 original illustrations, 5 of which are in colors. Cloth, price \$1.75. C. V. Mosby Company, St. Louis, 1917.

**Health in the Camp. A Talk to Soldiers.** By H. R. Kenwood, Temporary Lieutenant-Colonel, R. A. M. C.; Professor of Hygiene and Public Health in the University of London, etc. Pp. 58. Paper, price 15 cents. The MacMillan Company of Canada, Ltd., Toronto, 1916.

**War-Shock. The Psycho-Neuroses in War Psychology and treatment.** By M. D. Eder, B. Sc. (London), M. R. Cs., L. R. C. P., Temporary Captain and Medical Officer in charge of Psycho-Neurological Department, Malta. Pp. 154. Cloth, price \$1.75 postpaid. P. Blackiston's Son & Co., Philadelphia.

**The Jolly Book of Playcraft.** By Patten Beard, author of "The Jolly Book of Boxcraft," "Marjorie's Literary Dolls," etc. Pp. 227, with 61 illustrations arranged by the author and photographed by G. S. North, and with 29 diagrams. Cloth, price \$1.50 net. Frederick A. Stokes Company, New York, 1916.

**Massage. Its Principles and Practice.** By James B. Mennell, M. A., M. D., B. C. (Cantab.), Etc., Medical Officer, Physico-Therapeutic Department, St. Thomas' Hospital; Civilian Medical Officer in charge of the Massage Department, Military Orthopedic Hospital, Shepherd's Bush. With an Introduction by Sir Robert Jones, C. B., F. R. C. S., Colonel R. A. M. C., Inspector of Military Orthopedics. Pp. 358, with 135 illustrations and an appendix. Cloth, price \$3 net. P. Blackiston's Son & Co., Philadelphia.

**Preventive Medicine and Hygiene.** By Milton J. Rosenau, Professor of Preventive Medicine and Hygiene, Harvard; Director of the School for Health Officers of Harvard University and the Massachusetts Institute of Technology; Formerly Director of the Hygienic Laboratory, U. S. Public Health Service, etc. With chapters upon Sewage and Garbage, by George C. Whipple, Professor of Sanitary Engineering, Harvard; Vital Statistics, by John W. Trask, Assistant Surgeon-General, U. S. Public Health Service; Mental Hygiene, by Thomas W. Salmon, Medical Director, National Committee for Mental Hygiene, etc. Third Edition, containing a special section on Military Hygiene. Pp. 1,374, with illustrations. Cloth, price \$6.50. D. Appleton & Co., New York, 1917.

## WHAT OHIO IS DOING AGAINST TUBERCULOSIS

## Close Cooperation of Official and Unofficial Bodies—Work of State Bureau of Tuberculosis Hospital—Admissions and Discharges

No claim is made, says the Ohio Society for the Prevention of Tuberculosis in a recent publication, that tuberculosis work in Ohio has been developed along original lines or that it is further developed than in other states. The society does put forward the claim, however, that the record of close cooperation between an official body, the Ohio State Board of Health, and an unofficial body, the Ohio Society for the Prevention of Tuberculosis, in the gradual development of the necessary machinery with which to combat tuberculosis, covering as it does, seventeen years, is without parallel in the United States. The state's equipment for the fight against tuberculosis includes a division of public health education and tuberculosis under the state board of health, fourteen institutions in which tuberculosis may be treated, sixty-eight public health organizations, and sixty-eight nursing centers, employing a total of 463 nurses. The fourteen institutions for the reception and treatment of patients represent seven types: a state sanatorium, two municipal sanatoriums, three county hospitals, four district hospitals, one semipublic sanatorium, one private sanatorium, and one general hospital with a tuberculosis ward.

An important feature of the antituberculosis work of Ohio is the state bureau of tuberculosis hospital admissions and discharges, which is under the state board of health and to which ten of the tuberculosis hospitals belong. Blank forms for notification of admission and discharge are supplied by the bureau to the cooperating institutions. The notification of admission contains the hospital and state board of health case numbers, name of institution, patient's name, age, sex, color, social condition, nativity and length of residence, information about addresses and occupation, type of disease, number in family, existence of tuberculosis in the family or associates, previous sanatorium treatment, etc. The notification of discharge contains case numbers, name of institution, name, age, and home address of patient, cause of discharge, condition on admission and on discharge, condition of sputum, address to which patient is returning, name of prospective employer, and occupation, source of support, and patient's conduct in the institution.

Many uses are made of this mass of information. For instance, when the bureau receives a notification of admission of a patient from one of the eighty-six communities possessing public health nursing service, a copy of this notification is sent to the nurse, with a request for a report on the patient's family and home. In localities which have no public health nursing service the patients' families are visited by nurses on the staff of the division of public health education and tuberculosis of the state board of health. This service results in the detection of many cases which might otherwise remain unsuspected and untreated. The work of the bureau was described by Mrs. A. L. Mercer, of the Ohio State Board of Health, in a paper read before the last annual meeting of the National Association for the Study and Prevention of Tuberculosis, an advance proof of which was furnished THE MODERN HOSPITAL by courtesy of the *Journal of the Outdoor Life*.

Dr. Jose Y. Aragon, Magdalena, Cal., is opening a private hospital at that place.

## SOME GREAT HOSPITALS OF AMERICA

## British Types and New Departures as Described by the Editor of "The Hospital," London

On his recent visit to America, Sir Henry Burdett, the editor of *The Hospital*, collected some impressions of American hospitals which he has published in his journal and which are of interest to hospital administrators on this side. We reproduce his article below:

"It is not generally understood in this country that many of the older, and amongst them some of the best administered, hospitals of the United States were originally founded, and are still maintained, by funds, given for some or all the following purposes: endowment, site, buildings, equipment, maintenance. That is to say, there are a considerable number of hospitals in the United States which rely largely on voluntary gifts, or are maintained by funds presented by wealthy Americans and devoted to hospital purposes.

"The hospital idea has made great progress with the people throughout the United States during the last thirty, and especially in the last twenty, years. One of the most important influences for good in the hospital sense was the planning and opening of the Johns Hopkins Hospital at Baltimore, which is under the government of twelve trustees elected for life—a self-perpetuating body. The late Dr. John S. Billings was successful with his scheme and plans for this hospital, which were selected by the trustees after a limited competition. Dr. Billings, during his life, was the great hospital authority of the United States, and as his life, which we reviewed in *The Hospital* of June 19, 1915, p. 251, demonstrates, he was a man of fine character, fulness of knowledge, and rare ability. He was fortunate in having the cooperation of Dr. Henry M. Hurd as superintendent of the Johns Hopkins Hospital—a man of the quietest presence and most far-reaching influence which it has ever been our pleasure to meet.

"It is not necessary to describe in detail the wonderful completeness of the Johns Hopkins Hospital, closely associated as it is with the Johns Hopkins University. This hospital is unique in the circumstances of its original planning and creation, its splendid efficiency from its opening to the present time, and the object-lessons it affords to every visitor in proportion to the knowledge and experience of hospitals, and the treatment of disease, which each may possess. We gave a fairly complete account of its position, principal features, and excellence on page 339 *et seq.* of *The Hospital* for January, 1917. We will only repeat that we have often felt, and never more forcibly or certainly than during the visit of inspection we paid to this hospital on November 1, 1916, that no hospital administrator's or practitioner's education is complete until he has mastered the Johns Hopkins Hospital system and methods, and fully absorbed their atmosphere. As a pioneer of progress it has continuously fulfilled the objects which inspired its inception, which have been faithfully and exhaustively pursued and developed during the twenty-seven years of its existence. The superintendent, Dr. Winford H. Smith, is full of knowledge, his grasp of every detail is remarkable, and an inspection under his guidance yields continuous profit and pleasure.

"Most of the greater cities have interesting types of large hospitals, many of them affiliated to universities, or medical schools, or both, and the nursing organizations and training schools associated with them have done yeoman service in raising the standard of nursing and encouraging its development. They have secured a continuous growth in the quality of their nurses' education and class training, which constitute such predominant features in the best types of hospitals throughout the United States.

"Philadelphia has some thirty hospitals, of which the Pennsylvania Hospital, founded in 1751, contains most features of interest—an interest which is increased by the publication of 'The History of the Pennsylvania Hospital, 1751 to 1895,' by Thomas G. Morton, M. D., senior surgeon and president of the medical staff. This history contains many reproductions of ancient charters and documents of importance and value, as well as some excellent engravings, and constitutes altogether a book worthy of



preservation in the libraries of antiquarians, as well as of hospital men who take a wide interest in the history and development of the field of work to which they may devote their lives. Some of the old wards in the Pennsylvania Hospital have been cleverly converted or reconstructed, leaving many of the old features without interfering in any way with their hygienic and general efficiency for the accommodation and treatment of patients. The town hospital, an older establishment, contains 2,000 beds, with an average number occupied of 1,852; its expenditure is about £140,000 a year. In addition to several special hospitals there is also the hospital of the University of Pennsylvania, founded as recently as 1874, of which an Englishwoman, Miss Marion E. Smith, is the superintendent. It contains upwards of 400 beds, and has at present much accommodation for paying patients of the better class, which seems to be popular and is usually, we understand, fully occupied.

"New York is a great city for hospitals of all kinds, sizes, and qualities. The majority of them have been founded within the period—nearly fifty years—which has elapsed since the writer first became superintendent of a hospital. This fact is interesting as showing that the growth, improvement, and multiplication of hospitals dates from about the same period in the great cities of the United States and this country. The New York Polyclinic Hospital, with 205 beds, which is worked on the combined free and pay system, possesses features of interest. Its medical staff, for instance, consists of eighty-eight visiting physicians and surgeons, and forty-three specialists, in addition to resident surgeons. There is a good opening in New York for the provision of a modern, up-to-date hospital of the first rank, planned with infinite care and knowledge by the best authorities America contains, including Dr. S. S. Goldwater, superintendent of the Mount Sinai Hospital. Dr. Goldwater has spent a most useful and busy life; his knowledge of hospital construction and planning is exceptionally good, he has taken infinite pains to perfect his knowledge and mastery of hospital construction, administration, and everything calculated to benefit the citizens of New York hygienically, and to minister to their health, comfort, and wholesome, uplifting, and pleasurable existence. Dr. Goldwater's career, which is only now entering on what will probably prove to be its most interesting stage, is one worthy of study, because it is full of instruction for those who can appreciate good and thorough work, pursued with a single eye to securing the best and most efficient results, through municipal and institutional reform, under the control of men who have no axes to grind and are whole-heartedly desirous of securing the best possible results, at a reasonable cost, with the avoidance of waste and the absence of 'graft' of all kinds.

"Boston is a city full of interest, too, to all institutional and social workers of every type. England has learnt much and wisely from Boston institutions, and Boston has reciprocated the compliment, like many other American cities, by studying British and Continental methods and assimilating their best features when making developments for their own uplifting. The Massachusetts General Hospital, founded in 1811, decades of years before the majority of other hospitals were thought of, still maintains its supremacy and interest. Boston owes much, and many things, to the Massachusetts General Hospital, and under its skilled, active, and knowledgeable administrator, Dr. Frederick A. Washburn, it is extending and improving the character of its work, which cannot fail to prove of supreme interest to all hospital people the world over. The Massachusetts General Hospital owes much of its prosperity to the generosity of the citizens of Boston. Its close association with Harvard University did much to cement and develop the efficiency and reputation of its medical school.

"In recent years the Peter Bent Brigham Hospital has been established. It was founded by P. B. Brigham, who left the residue of his property in 1877 to accumulate, for twenty-five years from his death, in the hands of trustees, at the end of that period to be used in the founding of a hospital for the care of sick persons in indigent circumstances residing in the County of Suffolk. This led to prolonged discussion in the courts, which ended in March, 1911. Dr. J. S. Billings was engaged to give expert advice, a committee of experts was appointed, of whom he was one, six architects were invited to compete and present plans, and contracts for the construction of a hospital

with accommodation for 200 patients were signed in August, 1911, and completed in July, 1913. Dr. H. B. Howard, formerly superintendent of the Massachusetts General Hospital, had been appointed superintendent in April, 1908, when he visited Europe, and the hospital buildings were erected largely under his supervision and control. We published an illustrated account of this hospital in our issue of December 30, 1916, pp. 261-263. It is closely associated with Harvard University and the widespread popularity and great experience of Dr. Howard have brought it prominently into notice, while special points in its construction have led to interesting discussion and are still under trial. Both the Massachusetts General and the Peter Bent Brigham hospitals owe their existence to the generosity of citizens of Boston, and are examples of a type of American hospital which we defined at the commencement of this article.

"Boston contains another hospital of a distinct type, founded in 1864. It is called the Boston City Hospital, and is financed and managed by trustees who, in compliance with the ordinances, report fully each year to the Mayor of the City of Boston, who is the channel of communication between themselves and the City Council, from which the hospital receives substantial aid every year. The City Hospital has attained, under able superintendence, a high state of efficiency, and is one which British visitors should not fail to inspect and study during a visit to the United States.

"Did space permit, we should like to describe several other important American hospitals, including some of the more recently built hospitals in various states, notably that of Cincinnati, Ohio, and many other types, including the City and County Hospital at St. Paul, Minn. (700 beds), which has the unique distinction of being a municipal institution with a department for paying patients, and the Lakeside Hospital, Cleveland, Ohio (275 beds), founded in 1866 and rebuilt in 1896-98, of which Dr. A. R. Warner is the able acting superintendent. This latter institution will well repay a visit. It contains several good features, and its superintendent is a keen administrator, knowledgeable and courteous.

"Most of the great cities have one or more well-administered hospitals, some of which in recent years have attained a position which makes them interesting to hospital workers. We unfortunately have only space to take a very few examples of the larger hospitals representing the three types of endowed, public-supported, and municipal institutions. These must suffice for our present purpose, which is to demonstrate how closely certain British and American types are identical in origin, and the financial foundations on which they rest. Administratively, the best British and American hospital has often many things in common, the great difference in administration being that in the United States every important hospital and many of the smaller ones—which latter are full of interest and often excellently managed—are placed under the control of a superintendent as the supreme head, the majority of whom are members of the medical profession. There are, too, a few laymen; and in hospitals with as many as 300 beds there are instances where the superintendent is a woman whose management frequently is highly efficient and well worthy of study. We look forward to a time, after the war, when intercommunication between English-speaking people all over the world will become so greatly facilitated, as to make it a common practice for leaders of thought, and the most competent and knowledgeable authorities in every department of professional, institutional, educational, and scientific life, to visit their brothers and sisters across the seas, to interchange views and experiences, and in this way to immeasurably hasten the full development, on the highest standard, of human progress amongst English-speaking people all the world over."

The University of Nebraska, at Omaha, has recently opened a new general hospital to be operated in connection with its school of medicine. The building, which is four stories high, contains 120 beds, divided into a number of ward units, with three isolation beds adjacent to each ward. White enameled metal furnishings throughout are a feature. One hundred and fifty thousand dollars were expended on construction and equipment.

## The Convalescent

who has subsisted long upon fluids must resume solid diet with care, and the capricious appetite must be appealed to with an attractive, dainty, yet nutritive dish like Jell-O, which is prepared from pure crystal gelatine and sugar.



## JELL-O

is cool and sparkling and appeals to the patient. It has the combined qualities of the acid jellies and calf's-foot jellies. It is not only exceedingly pleasing to the eye and of delightful flavor, but it greatly facilitates digestion and conserves the body's nitrogen.

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The whipping process more than doubles the quantity of plain Jell-O, so that when whipped one package of Jell-O serves twelve persons instead of six.

Begin to whip the jelly while it is still liquid—cold but not yet congealing—and whip until it is of the consistency of thick whipped cream. Use a Dover egg-beater and keep the Jell-O cold while whipping by setting the dish in cracked ice, ice water or very cold water. A tin or aluminum quart measure is an ideal utensil for the purpose. Its depth prevents spattering, and tin and aluminum admit quickly the chill of the ice or cold water.

Add cream or whatever else goes into the dessert after—not before—whipping the Jell-O.

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# NEWS OF THE HOSPITAL FIELD

## Eastern States

The Franklin Hospital, Franklin, Pa., is establishing a training school for nurses.

The Warren General Hospital, Warren, Pa., has lately opened a new 30-bed annex for maternity patients.

The cornerstone of a new \$150,000 home for the Bay Ridge Hospital, Brooklyn, N. Y., was laid October 20.

A new home for the nurses of the Symmes Arlington Hospital, of Arlington, near Boston, is projected. The cost is estimated at \$40,000.

A modern institution cafeteria is to be a feature of the Rensselaer County Tuberculosis Hospital in course of construction near Troy, N. Y.

A new ward for employees of the Bethlehem Steel Corporation was opened in connection with St. Luke's Hospital, South Bethlehem, Pa., October 18.

Contract has just been awarded by the Allegheny Valley Hospital, Tarentum, Pa., for the erection of a two-story and basement building to cost \$120,000.

The Board of Supervisors of Herkimer County, N. Y., are having plans drawn for a 64-bed tuberculosis hospital to be erected by the county near the town of Salisbury Centre.

St. Joseph's Hospital, Parkersburg, W. Va., is being remodeled to provide additional room for patients, and the sisters are considering the erection of a home for their nurses.

The Presbyterian Hospital, New York city, is one of the residuary legatees of a large estate left by Miss Kate Collins Brown, of New Orleans, who died in New York last summer.

Contract has recently been awarded by officers of Otsego County, N. Y., for the erection of a county tuberculosis hospital to cost \$26,000. The hospital will be located at Mt. Vision, near Milford.

The Buffalo Homeopathic Hospital is floating a service flag containing 14 stars. One physician, 11 nurses, one ambulance chauffeur, and one kitchen boy have left that institution to serve their country.

Dr. Chesney M. Ramage, Fairmont, W. Va., has been appointed superintendent of the State Miners' Hospital in that city, to succeed Dr. W. S. McDonald, who has held the position for a number of years.

A plan to establish an electro-therapeutic hospital unit as near as possible to the front in France was approved at a convention of the American Electro-Therapeutic Association recently held in Atlantic City.

The Physicians' Association of Bethlehem, Pa., is considering a project for the establishment of a hospital, and has appointed Drs. C. A. S. Kemper, R. H. Bloss, and H. A. Burkhardt a committee on ways and means.

Announcement is made from Danville, Pa., that Mrs. Abigail Geissinger, who built the \$600,000 George F. Geissinger Hospital at Danville three years ago, has endowed that institution with a gift of \$1,000,000.

Dr. W. H. Roth, head of the Passavant Hospital, Pittsburgh, Pa., and one of its founders, retired October 1 from the active management of this institution, in which capacity he is succeeded by Rev. Charles B. Foelsch, pastor of

## Getting the patient to take nourishment

Sometimes the process of "building up" a convalescent is complicated by lack of appetite on his or her part. Food is either left untasted or is forced on an unwilling stomach that reacts sluggishly.

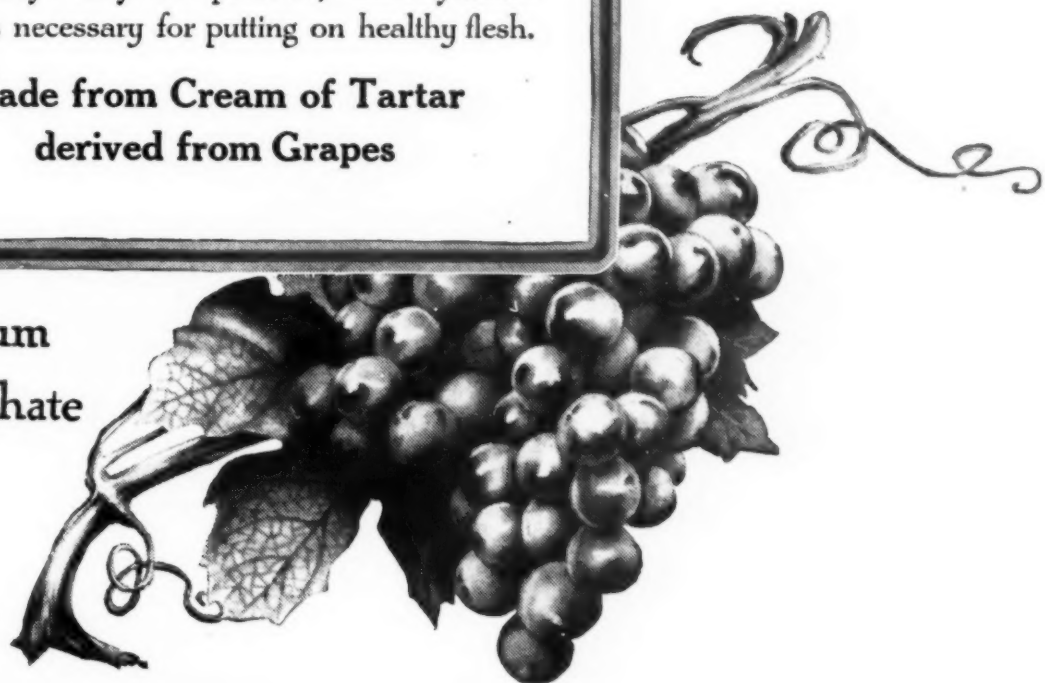
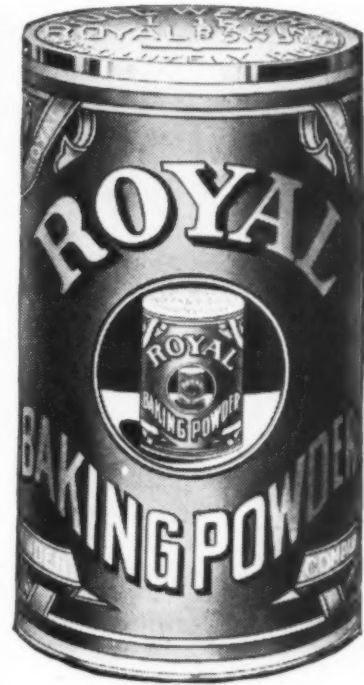
That is a case where food must be both dainty and nutritious—also light and easy of digestion. Bread foods, rolls, light biscuit and simple cake made with

## ROYAL Baking Powder

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**Price, \$2.00**

MODERN HOSPITAL readers will recall the extended series of very instructive papers on "Feeding the Hospital," written by Miss Graves and published in this journal last year. Because of their exceptionally meritorious character these papers attracted much attention and were adopted by a number of the leading schools of nursing as a part of their course of instruction. As a result of a continued and increasing demand for the papers after the numbers of THE MODERN HOSPITAL containing them could no longer be supplied, and with much encouragement from prominent training school superintendents and instructors, Miss Graves was induced to revise the entire series of papers and elaborate on it with the view of meeting the need felt by many for a standard text-book for student nurses on the important subject of dietetics. It is believed that the book will also prove valuable to graduate nurses, dietitians, hospital superintendents, and the medical profession for reference purposes. A descriptive circular outlining the contents of the book will be mailed on request.

### SPECIAL DISCOUNT TO TRAINING SCHOOLS

To encourage the use of this new book, which it is felt will make for greater efficiency in the training of nurses and ultimately in hospital service, a very substantial discount will be allowed on orders in quantity for instruction purposes. A copy of the book will be sent postpaid to any training school superintendent for examination.

**The Modern Hospital Publishing Co.**  
Metropolitan Building                      SAINT LOUIS

Grace Lutheran Church, Pittsburgh. Dr. Roth has passed his 80th birthday.

The Franklin Hospital at Franklin, Pa., is opening a nurses' training school. A high school education or its equivalent is required of applicants for enrollment.

From Dr. John W. Mitchell, a former resident of Norwich, N. Y., the Norwich Hospital has received a gift of the old Mitchell homestead, which is to be sold and the proceeds used to purchase a new location for the hospital.

St. Jerome's Hospital, a new institution at Batavia, N. Y., established by the Sisters of Mercy of the Buffalo diocese, was opened to patients October 1. Sister Mary John, formerly of Mt. Mercy Hospital, Buffalo, is superintendent.

Miss Etta Latshaw has resigned the matronship of the Charity Hospital at Norristown, Pa., after having served the institution in this capacity for 25 years. It is reported that the duties of matron will hereafter be assumed by Miss Binkley, the superintendent.

Dr. Frederic Brush, superintendent of the Burke Foundation Home for Convalescents, White Plains, N. Y., and Lieut. U. S. Navy R. F., has been appointed executive medical officer of the new naval training station at Pelham Bay, N. Y. Mr. W. E. Wright becomes acting superintendent of the Burke Foundation.

The Maryland General Hospital, Baltimore, has commenced improvements which will add 30 beds for men, a 20-bed children's ward, and 18 private rooms to its capacity. These improvements represent a part of a program for expansion, for which a fund of \$200,000 was raised last spring by popular subscription.

Plans are being made by the Johnstown (Pa.) Society for the Prevention of Tuberculosis to erect at the state sanatorium at Cresson a reception cottage for patients who must wait their turn at the sanatorium. The society has been maintaining tents to accommodate these patients, but the tents have proved unsatisfactory.

Many hospitals make a practice of doing what they can to make easier the way of the married man, especially of the one who is trying to support a large family on a small income, but at the Harvard College Infirmary it is the other way around. Bachelor members of the faculty are cared for free, while those with wives must pay \$2 a day.

The six-story main building of the new Misericordia Hospital at Fifty-fourth street and Cedar avenue, Philadelphia, although not entirely completed, has been opened to patients. The hospital is being erected by the Sisters of Mercy, of Merion, Pa., and the unit now occupied has cost approximately \$1,000,000. Ultimately the institution will consist of a group of seven large buildings with accommodations for between 400 and 500 ward patients, besides many private rooms.

Greenwich Village, a section of New York's "Little Italy," is celebrating a unique benefaction—a hospital on wheels, built to meet the peculiar needs of the district and donated for its use. The "hospital" is in the shape of a giant motor car, much larger than the ordinary ambulance, with a complete emergency outfit, including an operating table. George Perazzo, ten times mayor of the village, and noted for philanthropy among his people, is the donor, and the gift is said to have cost him about \$7,000.

At the twelfth annual meeting of the West Virginia Graduate Nurses' Association, held at Fairmont the last week in September, officers were elected as follows: President, Mrs. Susan Cook, Wheeling; first vice-president, Miss Harriet Phalen, Wheeling; second vice-president, Mrs. N. S. Woodyard, Mannington; secretary-treasurer, Mrs. R. J. Bullard, Wheeling; superintendent of superintendents' society, Miss Anna Bessler, Charleston. Sister Mary Adelaide of Clarksburg was named delegate to the convention of the American Nurses' Association, and Miss Louella Ross, of Wheeling, will represent the association at the Red Cross convention in Washington. Bluefield was chosen as the next place of meeting.

Permanent quarters for the new Broad Street Hospital, New York city, have recently been opened at Broad and South streets. The building is a seven-story structure of the Italian renaissance type of architecture, representing an expenditure of \$270,000. The hospital is designed to



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serve the southern part of Manhattan, including the financial district, and the money for its erection was donated by individuals and business firms of this district, James Barber being the largest contributor. Special departments for nervous and mental disorders, skin diseases, maternity and gynecological cases, and eye, ear, nose, and throat troubles have been created. The equipment throughout is said to be very complete and up-to-date.

#### Southern States

The Georgia Baptist Hospital, Atlanta, is erecting a \$15,000 addition.

A new emergency ward has recently been opened by the Macon Hospital, Macon, Ga.

Drs. A. P. McElroy and P. K. Switzer are opening a private hospital at Union, S. C.

The annual meeting of the Alabama State Association of Graduate Nurses was held in Birmingham the week of October 16.

Spartanburg County, S. C., in October, voted a \$200,000 tax levy to build a general hospital. It is understood that the hospital will be located at Spartanburg.

An emergency hospital with a major operating room, a dressing room, a drug and sterilizing room and a 4-bed ward is being fitted up at the El Paso (Tex.) city jail.

A new home for the Salome Hospital, operated at Cuero, Tex., by Dr. J. H. Reuss, is nearing completion. The cost of the building is reported to be nearly \$40,000, exclusive of equipment.

The proposed new International and Great Northern Railway hospital is to be located at Palestine, Tex., and will cost about \$50,000. Work on the building will be started at once.

The Riverside Hospital, Paducah, Ky., maintained by the city, is soon to have a new contagious ward, contract for the erection of a \$7,000 building for this purpose having recently been awarded.

A new addition to the German Methodist Deaconess Hospital, Louisville, Ky., was opened October 1. The main building of this institution was damaged by fire a year ago, and this also is now practically new, having been rebuilt.

Providence Sanitarium, Waco, Tex., awarded contract in October for the erection of a five-story fireproof addition to cost \$75,000. Other new buildings, which will require an expenditure of more than \$200,000, are included in an expansion program planned by this institution.

Governor Hobby, as chairman of a board appointed to select a site for a new state hospital for the insane to be located in northwest Texas, has announced that the board is ready to consider applications from communities interested in securing the institution. The proposed new hospital was authorized by the last Texas legislature.

#### Middle Western States

Mercy Hospital, Bay City, Mich., will soon open a new three-story addition.

A new contagious ward to cost \$85,000 is nearing completion for the Minneapolis City Hospital.

Mrs. Minnie Brunk, a trained nurse of Northville, Mich., has recently opened a private hospital at Fenton, Mich.

An addition costing between \$40,000 and \$50,000 will soon be erected to St. Joseph's Hospital, Menominee, Mich.

A private hospital is being opened at Fenton, Mich., by Mrs. Minnie Brunk, a trained nurse of several years' experience.

Excavation has been commenced at Kewanee, Ill., for a general hospital to be erected by the Kewanee Public Hospital Association.

"Tag Day" contributions to the Reid Memorial Hospital, Richmond, Ind., September 29, brought that institution an even thousand dollars.

St. Luke's Hospital, St. Louis, has started work on a



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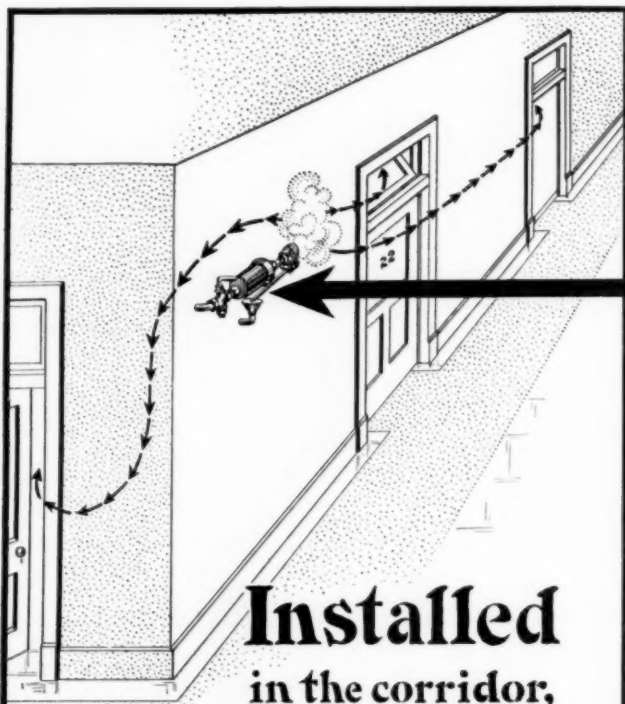
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\$150,000 addition to serve as a home for its nurses. It is expected that the building will be completed by April 1, 1918.

A new annex containing several operating rooms and 40 beds for patients was opened by the Methodist Hospital, of Indianapolis, October 15.

The Lutheran Hospital at Cedar Rapids, Ia., has awarded a contract for a top story addition, which it expects to have completed before winter.

Miss Flora Long has resigned the position of superintendent at the Alliance (O.) City Hospital to pursue advanced hospital studies in Detroit, Mich.

Plans are being made by the University of Illinois, at Urbana, for the erection of a hospital for which Congressman W. B. McKinley has given \$120,000.

Drs. Sanford and Drew, Farmington, Minn., are reported to be planning a \$25,000 hospital, which they expect to erect at Farmington next spring.

The Plymouth Hospital is a new Lutheran institution at Plymouth, Wis., opened in October. It occupies a \$35,000 building and offers accommodations for 35 patients.

Dr. E. C. Henry, of Omaha, has been appointed chief surgeon of the Nebraska Orthopedic Hospital in place of Dr. Lord, who has tendered his services to the government.

Miss Bertha Bowman, a nurse of wide experience, who is well known in many parts of Michigan, has recently opened a private general hospital at East Lansing, that state.

Rev. J. R. Harper, of Chillicothe, Mo., assumed the duties of superintendent at the Ensworth Hospital, St. Joseph, Mo., October 1, succeeding Dr. J. J. Bentley, resigned.

Steps will be taken in the near future toward the erection in northern Wisconsin of a state tuberculosis sanatorium, for which the last Wisconsin legislature appropriated \$50,000.

A \$100,000 bond issue for the erection of a tuberculosis hospital for Allen County was sold at Fort Wayne, Ind., October 13. Construction work on the hospital will be started this fall.

Mercy Hospital and Sanitarium, operated at Manistee, Mich., by the Sisters of Mercy, is planning to spend \$25,000 on improvements, which will include a new heating plant and new laundry equipment.

A new community hospital will be completed at Bedford, Ind., about January 1. The building represents a bequest from Moses F. Dunn, a Bedford lawyer, who died last year. It will accommodate 50 patients.

The Children's Protective Society, of Minneapolis, has launched a campaign to improve conditions in homes and hospitals for infants, and is seeking to bring about uniform organization in all such institutions.

The management of the Park Hospital, Jamestown, N. D., has lately been taken over by the Sisters of St. Joseph. Mother Leo, formerly assistant superintendent of St. Mary's Hospital, Minneapolis, is in charge.

A site for a juvenile research institution to be established by the state of Ohio has been selected on the grounds of the Columbus State Hospital. One hundred thousand dollars is available for buildings.

Dr. Porter E. Williams, of Bunceton, Mo., has been appointed superintendent of State Hospital No. 2, at St. Joseph, Mo., succeeding Dr. E. H. Bullock, who has been made State Land Reclamation Commissioner.

A new \$8,500 home for employees at the Otter Tail County Sanatorium, Battle Lake, Minn., has recently been completed and is now occupied by the superintendent, Dr. A. G. Kessler, his nurses, and other workers.

Construction work is well advanced on a new hospital at Lima, O., for the Sisters of Charity. The building will be arranged to accommodate 100 patients. "St. Rita's Hospital" is the name by which the institution is to be known.

Contract was awarded October 6 for the erection of a \$100,000 addition to St. Joseph's Hospital, South Bend, Ind.

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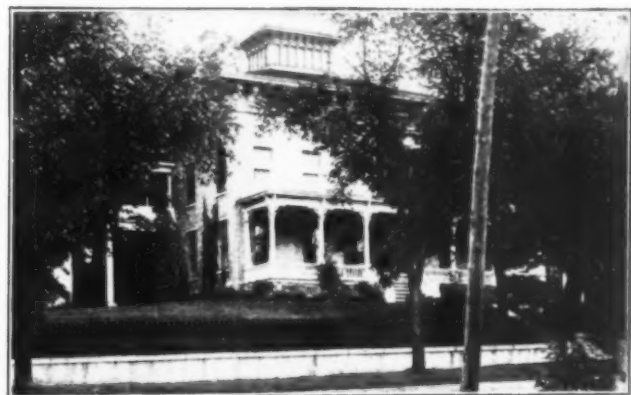
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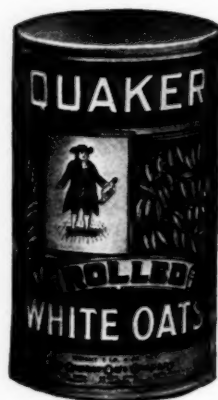
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The new building will add many beds to the capacity of the hospital, and will include a special department for maternity cases.

The cornerstone of a new home for Mercy Hospital, Jackson, Mich., was laid the last week in September. A four-story fireproof building, reported to cost \$50,000, is being constructed, and the capacity of the hospital will be greatly increased.

Work on the foundation of a new \$200,000 building for the Samaritan Hospital, Sioux City, Ia., will be started this fall. Half of the building fund has been donated by M. C. Davis, a local resident, and the rest is being raised by popular subscription.

The Board of Commissioners of Cook County, Ill., have approved a project for the erection in South Chicago of two branches of the Cook County Hospital to cost \$1,000,000. The matter will be finally settled by the voters of the county at the November election.

Mrs. Alice P. McLaughlin, for 26 years superintendent of the Nebraska Methodist Hospital at Omaha, is retiring from hospital work. Miss Jennie L. Cavanaugh, a clerk, who has been associated with Mrs. McLaughlin during the latter's entire term of service, is also leaving the hospital.

Tentative plans for expending a \$1,000,000 bond issue to be submitted to the voters of Cleveland, O., this fall, provide for the erection at Warrensville, near Cleveland, of a \$400,000 convalescent hospital, the building of a \$400,000 addition to the Cleveland City Hospital, and the enlargement of the city tuberculosis sanatorium at Warrensville.

A fund of \$200,000 for the establishment of a Jewish hospital in Kansas City, Mo., is provided by the will of the late Nathan Schloss, millionaire tobacco manufacturer of that city. The will instructs the trustees to build the hospital as soon as practicable and stipulates that the institution is to be known as the Schloss Jewish Memorial Hospital.

A petition for dissolution of the Presbyterian Hospital corporation of Minneapolis has been filed with the district court in that city. The corporation was organized 24 years ago to build a hospital, but the project never materialized. Rev. Chas. E. Vanderburgh, a pioneer Presbyterian minister of Minneapolis, was a prime mover in the undertaking.

Miss Mary B. Austin, of Battle Creek, Mich., has lately been installed as superintendent of the Bartholomew County Hospital at Columbus, Ind., vice Miss Eleanor Ryan, who resigned to go to France with the Indianapolis base hospital. The Columbus institution is a new general hospital, which has been in operation only since the first of this year.

Central colleges for nurses, where academic and theoretical instruction would be given, the nurses to receive only their practical training in hospitals, was advocated by Miss Mary Wheeler, superintendent of the Illinois Training School for Nurses, Chicago, in an address at a convention of Wisconsin graduate nurses held in Milwaukee the first week in October.

A fine, new residence property at Dowagiac, Mich., has been purchased by Fred E. Lee, of that city, and will be converted into a hospital as a memorial to his daughter, Mary, who died in the house. Mr. Lee's investment, which will include sufficient endowment to take care of any possible deficit in operating expenses, will amount to more than \$100,000, it is stated.

At a recent annual meeting of the Northern Pacific Beneficial Association, held at St. Paul, H. B. Smith, president of the association, recommended that a hospital for Northern Pacific employees be erected in that city. Mr. Smith reported that 65,032 cases had been treated in the association's hospitals at Brainerd, Minn., Glendive, and Missoula, Mont., and Tacoma, Wash., during the year.

The Swedish Hospital, of Minneapolis, will celebrate its 20th anniversary this fall. This hospital began its existence with 28 beds, and 238 patients were admitted the first year. It now has 160 beds, and approximately 4,000 persons are cared for annually. Mr. G. W. Olson, the superintendent, has adopted a unique plan for the accommodation of patients unable to pay. When application is made

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for a free bed, he proposes to the applicant that the latter make an effort to raise half of the regular price of the bed among his friends, with the understanding that the hospital will waive payment of the balance. Mr. Olson finds that most needy persons can do this, and that by this method the hospital is able to care for a larger number. Of course, no one who cannot raise the stipulated amount is turned away when there is room for him.

Dr. R. Richison, of Yellow Springs, O., has been appointed superintendent of the District Tuberculosis Hospital, Springfield, O., the appointment to become effective January 3. This hospital has been without a superintendent since Dr. Henry Baldwin resigned several months ago. Before taking up his duties Dr. Richison will spend some time in a tuberculosis sanatorium in New York, besides visiting institutions of this kind in his own state.

Bids were received to October 30 on the erection at Bellefontaine, O., of a hospital, for the establishment of which Mrs. Rebecca Williams, of that city, donated land valued at \$100,000. The plans, which were drawn by Architect Frank L. Packard, of Columbus, O., call for a two-story building of colonial design, estimated to cost \$35,000. The institution is to be a memorial to Mrs. Williams' mother, and will be known as the Mary Rutan Hospital.

Mercy Hospital, Benton Harbor, Mich., is adding a new annex which will accommodate 30 patients, increasing the capacity of the institution to 55 beds. An electric elevator and a separate heating plant are other facilities being provided. Miss Mae Fye, who received her nurse's training in the Bronson Hospital, Kalamazoo, Mich., and has done post-graduate work in the Woman's Surgical Hospital and other hospitals of New York City, has been superintendent at the Benton Harbor institution for the last year and a half.

### Rocky Mountain and Pacific Coast States

Mrs. Lydia Stamm, a local nurse, has lately opened a maternity hospital at Visalia, Cal.

A new Catholic hospital to be known as St. Mary's is nearing completion at Gallup, N. M.

Plans have been completed for a \$25,000 hospital to be built for the Washington State Soldiers' Home at Orting.

The Mineral County Hospital Association is a new corporation at Superior, Mont. The capital stock is \$50,000.

A new building is under way at Grangeville, Idaho, for a hospital to be established by Dr. Jesse L. Raines and others.

A new emergency hospital was opened by the American Smelting and Refining Company at Murray, Utah, October 1.

A concrete annex, the second addition to be made within a year, will be erected by the Enloe Hospital at Chico, Cal., this fall.

Work has been started on new buildings for the Wyoming State Hospital at Evanston, which was burned in September.

The Franklin County Hospital at Pasco, Wash., was burned October 12. Only four patients were in the building at the time and all were safely removed.

All preliminary plans have been completed for the erection of a \$100,000 Deaconess hospital at Phoenix, Ariz., and the building will probably be started this winter.

Dr. Harry J. McGregor and brother, James C. McGregor, have recently opened a new private hospital at Chouteau, Mont. The building contains 27 rooms for patients.

Dr. William R. Tipton, of East Las Vegas, N. M., has been chosen superintendent of the New Mexico Hospital for the Insane at Las Vegas, to succeed Dr. M. F. Des Marais, resigned.

The Mother Atwood Memorial Hospital, an adjunct to the George Junior Republic in San Diego, Cal., was opened in a new building September 26. Accommodations for 14 patients have been provided.

The Desert Inn, a private tuberculosis sanatorium at

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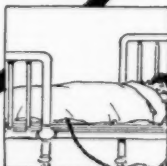
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Phoenix, Ariz., has lately been purchased by Dr. Francis H. Redewill, of that city. Miss Blanche L. Mackenzie, of St. Luke's Hospital, Chicago, is the doctor's head nurse.

The Albuquerque (N. M.) Journal, under date October, 1916, contains the announcement that a 200-bed sanatorium for doctors and nurses is to be established at Albuquerque next year by a corporation organized in Illinois. The initial building contract will call for an outlay of \$150,000, it is said. "Physicians and Nurses' Sunshine City Sanatorium" is to be the name of the institution.

A fire resulting, it is believed, from defective wiring, badly damaged the main building of St. Joseph's Hospital at Phoenix, Ariz., October 5. Fortunately a new \$10,000 operating room had just recently been completed in a wing not touched by the flames, and the work of the hospital will go on with little interruption. The sisters are said to be considering the erection of a modern fireproof building to replace the burned structure.

A tract of land consisting of 454 acres has been purchased at Slymar, 25 miles north of Los Angeles, Cal., by Los Angeles County, as a site for a tuberculosis sanatorium to be established in the near future. The sanatorium is to be used exclusively for incipient cases. An administration building and a service building of substantial construction will be erected, but the patients will be housed in lean-to shacks, each containing 16 beds, with dressing rooms. The initial capacity of the institution will be about 100 patients, but it is expected that it may be found necessary in time to add several hundred beds.

The San Francisco Board of Public Works, in consultation with hospital superintendents and traffic policemen, has devised an illuminated night sign, which is being adopted by private as well as public hospitals for the abatement of street noises. The sign, which measures 8 by 4 feet, bears the word "Quiet" in block letters 12 inches high, painted white and yellow. It is mounted on a steel pole 28 feet high. Interested officials believe that when this sign has been installed automobile drivers will have no excuse for violating the city ordinance against open mufflers and unnecessary horn blowing.

Los Angeles is soon to have a new college and hospital, representing an outlay of \$500,000, according to recent newspaper dispatches from that city. The Wesley Episcopal Society, a new corporation, will establish such an institution at Mount Tara, near the city, for the training of medical missionaries, it is said. One hundred thousand dollars of the capital stock has already been subscribed, and the erection of the buildings will be started in January. Rev. Mr. Guelph, the Rev. Samuel Clements, of Philadelphia, and Mrs. Rebecca A. Carpenter, also of Philadelphia, are named as incorporators of the society.

### Get Ready for Standardization

The time is just about at hand when the public is to demand the fixing of some definite standards in hospital practice. Medical men throughout the country are dissatisfied with what their hospitals are doing because their patients are dissatisfied with what their hospitals are giving them. The public is becoming educated up to what is to be expected in the way of service in the modern hospital, and it is going to have what it knows it is entitled to. This means, if it means anything, that inefficiency, carelessness, and want of initiative are to be set aside. All these difficulties point directly at the administrator of the hospital, and this means that the inefficient and incapable administrator is going to be relegated to the scrap heap so far as his job is concerned.

Superintendents had better come out of the dark recesses of their own institutions and see what other hospitals are doing, and profit not only by what they are doing, but also by what they are not doing and ought to be doing. There is to be an accounting one of these days and that quite soon, and the hospital administrator will be found on the carpet when that time comes.